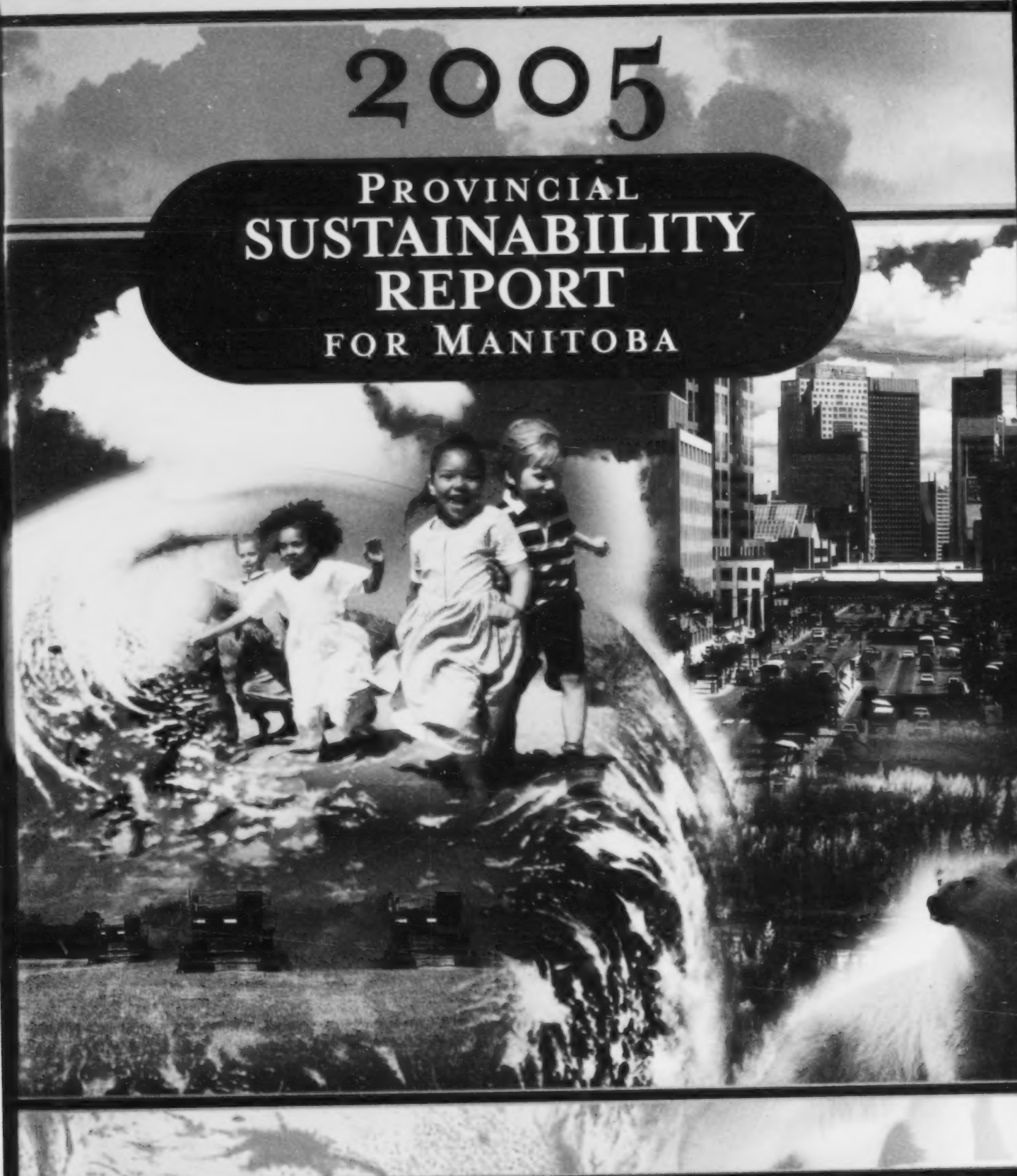
2005

PROVINCIAL SUSTAINABILITY REPORT FOR MANITOBA



Manitoba

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MINISTER'S MESSAGE

Fellow Manitoban:

On behalf of the Manitoba government, I am very pleased to introduce this comprehensive and informative document, the *2005 Provincial Sustainability Report for Manitoba.*

The purpose of this new and innovative report is to provide Manitobans with information on important sustainability issues and trends. The report was developed by compiling data on key indicators that have been tracked over time to measure our progress towards sustainability. This approach improves on the Manitoba government's state of the environment reporting during the 1990s. Rather than presenting information based solely on current environmental conditions, we are reporting on the interrelationships between environmental conditions and social and economic factors.

It is difficult to measure progress towards sustainability using only one or two indicators, or to determine complex trends over a short time period. Since this is the first report of its kind for Manitoba, the indicators used in future reports will likely evolve over time. We are committed to improving the coordination of information both within government, and with Manitobans and stakeholders, to use the most effective and appropriate indicators.

By reading and using this document, readers can become better informed and make wise decisions that contribute to a more sustainable future for all of us.

I welcome your comments on this report and on our efforts to date. Your input will help improve our process for future reports. Thank you for participating and for doing your part in making Manitoba more sustainable.

Sincerely,

Stan Struthers

Stan Struthers
Minister of Conservation

EXECUTIVE SUMMARY

This is the first Sustainability Report for Manitoba, required under *The Sustainable Development Act*. Its purpose is to provide Manitobans with timely, accurate information on important sustainability issues and trends. It is a way of monitoring Manitoba's sustainability by tracking and interpreting key indicators in the province's many sectors. By studying and reporting on these indicators, Manitobans can be kept informed about the progress taking place and be encouraged to participate in the long-term strategies for sustainable development in Manitoba.

Summary of Indicators and Trends

Following is a summary of the indicators presented in this report, their associated trends and the pages where they are located. The indicators are organized within a framework of three dimensions – natural environment, economy and social well-being. For a full interpretation of the indicators and their implications for sustainability, see the relevant chapter in this report.

Natural Environment

The natural environment dimension, presented in Chapter One, consists of six categories of indicators, each addressing a specific environmental/resource area. These indicators will help determine whether nature's life-supporting capacity is diminishing or being maintained. The categories discussed in the chapter on natural environment are: biodiversity and habitat conservation; fish; forests; air; water; and climate change (Table A).

Sustainable management of Manitoba's rich heritage of natural resources and ecosystems is a complex task with notable successes along with emerging challenges. The list of familiar threats to the environment, such as water

Table A. Summary of Natural Environment Indicators

CATEGORY	INDICATOR	TREND	PAGE
Biodiversity and Habitat Conservation	■ Natural Lands and Protected Areas	Positive	12
	■ Wildlife Species and Ecosystems at Risk	Unclear	12
Fish	■ Fish Species Biodiversity and Population	Changing	14
	■ Commercial Fish Harvest	Varies depending on fishery	15
Forests	■ Forest Type and Age Class	Stable	16
	■ Forest Renewal	Stable	16
Air	■ Urban Air Quality Index (AQI)	Winnipeg and Brandon unchanged; Flin Flon improving	18
Water	■ Water Quality	Stable	20
	■ Water Allocation/Consumption	Municipal use positive; Agricultural and industrial use negative	21
Climate Change	■ Average Annual and Seasonal Temperature	Negative	24
	■ Total Annual and Seasonal Precipitation	Negative	24
	■ Greenhouse Gas (GHG) Emissions	Stable	25

pollution, has grown to include risks like climate change and invasive species. Many of these issues are linked and cannot be effectively dealt with in isolation. Integrated programs like *The Manitoba Water Strategy* take these links into account and, therefore, can show significant promise if properly implemented.

The recovery of some formerly endangered species demonstrates that, with the right approach, negative trends can be reversed. However, focused attention is now needed in a number of emerging problem areas. Excessive nutrient loading has contributed to a deterioration of water quality in Lake Winnipeg. Although predicting the nature of climate change and its effects is filled with uncertainties, there remains the potential for more frequent, extreme events and higher costs. In many other areas, such as indoor air pollution, a lack of monitoring data makes it difficult to form any reasonable conclusions. It will be increasingly important to keep a close watch over the state of the environment in the face of continuing change – it may provide the early warning signals needed to adapt in a sustainable way.

Economy

The economic dimension, presented in Chapter Two, consists of seven categories of indicators. These indicators help describe and track the impact of the economy on the natural environment; the ecological efficiency with which the natural environment is converted into goods and services for human consumption; and the level of economic welfare generated. The categories discussed in this chapter are: economic performance; agricultural viability; mining; energy efficiency and conservation; consumption and waste management; employment; and education (Table B).

Table B. Summary of Economic Indicators

CATEGORY	INDICATOR	TREND	PAGE
Economic Performance	■ Real Gross Domestic Product Per Capita	Stable	30
	■ Contributions to Gross Domestic Product by Sector	Stable	30
Agricultural Viability	■ Total Net Farm Income	Variable	32
	■ Farm Structure	Consolidation increasing	32
Mining	■ Mineral Exploration	Stable	34
	■ Mineral Reserves	Negative	34
	■ Mineral Production	Stable	35
Energy Efficiency and Conservation	■ Energy Intensity	Positive	36
	■ Renewable Energy Consumed versus Total Energy Consumed	Positive	36
Consumption and Waste Management	■ Waste Disposal	Positive	38
	■ Waste Recycled or Reused	Positive	38
Employment	■ Labour Force Trends	Positive	40
	■ Labour Force Opportunities	Positive	41
Education	■ Readiness for School	Not yet established	43
	■ Literacy	Stable	43
	■ High School and Post-secondary Education Completion	High school positive University/college stable	44

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Based on Gross Domestic Product, the Manitoba economy is holding its relative position within Canada and a trend of continued positive growth is expected. On one hand, this is good news because it contributes to the positive trends seen in employment rates and labour force opportunities in Manitoba. On the other hand, economic progress in Manitoba has typically translated into increased consumption of material goods, and this usually means more material waste. With recycling rates climbing in Manitoba and the rest of the world, society will begin relying more and more on industry to design products and services that minimize waste.

Successes in Manitoba's agriculture and agri-food sector hinge on local and, increasingly, on global forces of change – as the BSE crisis has highlighted. The average size of a farm in Manitoba has increased over the years due to required economies of scale to offset increased costs. The implications of this shift to economic, social and environmental aspects of sustainability will require study and monitoring in the years to come.

An important component of the economy in Manitoba is the education of our youth. While youth literacy in Manitoba is among the best in the world, some aspects of our children's readiness for school show the need for stronger learning foundations during their early years.

Manitoba's abundant hydroelectricity plays a key role in the province's transition to sustainable development. It benefits our economy by providing an inexpensive source of energy, and its renewable nature contributes to Manitoba's energy security. As well, our hydroelectricity is a clean source of energy that is helping Manitoba and Canada minimize their greenhouse gas (GHG) emissions and meet global commitments on climate change.

Social Well-Being

The social well-being dimension, presented in Chapter Three, consists of six categories of indicators. These indicators help describe and track society's capacity to create sustainable economic and social institutions, and to care for its members. The categories discussed in the chapter on social well-being are: demographics; equity and rights; community and culture; governance; health; and justice (Table C).

Manitobans are generally healthy, yet particular segments of our population are at high risk of developing certain health problems. For example, rates of diabetes in Manitoba continue to increase.

Manitobans enjoy the many freedoms that are part of life in a democratic society, yet our province and country are experiencing a decline in voter turnout. Manitoba enjoys

Table C. Summary of Social Well-Being Indicators

CATEGORY	INDICATOR	TREND	PAGE
Demographics	■ Population Growth	Positive	48
	■ Migration to Manitoba from Other Jurisdictions	Positive	48
Equity and Rights	■ Low Income	Increasing until the mid-1990s and positive since	50
	■ Income Inequality	Negative	50
	■ Income Dependency	Positive	51
	■ Community Supported Living	Positive	51
Community and Culture	■ Community Engagement	Not yet established	52
	■ Heritage Conservation	Positive	53
	■ Primary Language Spoken at Home	Unclear	53
Governance	■ Voting Rates	Negative	55
	■ Progress Toward Debt Repayment	Positive	55
Health	■ Health Status	Not yet established	57
	■ Access and Quality of Care	Not yet established	58
Justice	■ Crime Rate	Variable	60

the benefit of having the second most equal distribution of income in the country, a fact that bodes well for sustainable development. However, Manitoba's percentage of low-income families remains high compared to other provinces.

While Manitoba's state of social well-being will always show mixed trends, it is our many positive features that will ultimately attract Canadians from other provinces and citizens from other countries to live in Manitoba and, of critical importance, will provide a reason for young Manitobans to remain in our province.

INTRODUCTION

This report represents the first Sustainability Report for Manitoba, as required under *The Sustainable Development Act*. The purpose of the report is to provide Manitobans with timely, accurate information on important sustainability issues and trends. The report was developed by the Manitoba government based on recommendations for sustainability indicators from the Manitoba Round Table for Sustainable Development.

Provincial Profile

Located in the geographic centre of North America, Manitoba connects the rich agricultural lands of the Canadian Prairies with the rugged granite landscape of the Canadian Shield and the Arctic waters of Hudson Bay. Manitoba's boundaries encompass an area of 650,087 square kilometres, consisting of 54.8 million hectares of land and 10.2 million hectares of water. It has a physical variety of tall- and short-grass prairie, aspen parkland, hardwood and softwood forests, hills and plains.

Six of Canada's 15 ecozones are represented within Manitoba's borders (see map of Manitoba's Ecozones). The province has over 100,000 lakes and four major rivers drain the northern reaches of the province and empty into Hudson Bay: the Churchill, the Nelson, the Seal, and the Hayes. In the south, the Red and Assiniboine meander through the grasslands to Lake Winnipeg, which is the tenth largest freshwater lake in the world.

Within Manitoba's population of 1.17 million, more than 100 languages are spoken, a reflection of a tradition of newcomers from around the world finding a home in Manitoba and a long history of First Nations inhabiting the land. This diversity enriches our culture and helps Manitoba do business on the global market. Manitoba supports a diverse number of economic sectors including: manufacturing (such as food processing and aerospace industries); financial services; agriculture; biotechnology; information and communication; energy; tourism; forestry; and mining.

Maintaining and enhancing a healthy physical environment, a stable and diverse economy and our rich culture and quality of life in the future will require Manitobans to face a variety of sustainability issues and trends described in this report.

Figure A. Manitoba's Ecozones

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Figure A. Manitoba's Ecozones

Organization of the Report

The report helps to monitor sustainability by tracking and interpreting key indicators in many sectors of the province. The indicators are organized into a framework (Figure B) that reflects the different dimensions of Manitoba's sustainability – natural environment, economy and social well-being. The concept of sustainability is rooted in the interconnectedness and interdependency of each dimension on the other, with the notion that we cannot consider each aspect separately. Attempts have been made to show the links and effects of the indicators on each other and each dimension throughout the report.

Figure B. Indicator Framework

Within each dimension are categories which in turn present key sustainability indicators and trends. The executive summary of the report provides a quick reference to the trends and where they may be found in the report.

Measuring and reporting on progress toward sustainability is a complex matter. There are an endless number of potential indicators and they must be chosen carefully to ensure that the various objectives are addressed. The indicators presented in this report provide information for a relatively short period of time, in relation to long-term sustainability. They are but one of many tools available to decision-makers. The indicators should not be interpreted in isolation, but rather in combination with other relevant information and ideas for making wise, informed decisions on sustainability issues for Manitoba.

The type and amount of data available for this report varies and timelines for reporting may be different for each indicator. All efforts will be made to follow-up on these indicators in the next sustainability report, and build upon the data presented here. This report is based upon the information that was available at the time of printing. The electronic version of this report includes many links to additional information on these issues, and is available at **www.gov.mb.ca/conservation/sustainabilityreport/**

Give us Your Feedback

We would like to know what you think of this report and the accompanying website. Tell us what you liked best and what you think needs to be changed, improved or added. We welcome your comments by mail, telephone, facsimile or e-mail. Please submit to:

Manitoba Sustainability Reporting
Manitoba Conservation
Suite 160 – 123 Main Street
Winnipeg, MB R3C 1A5
Phone: 204-945-7100
Fax: 204-948-2357
E-mail: sustreport@gov.mb.ca
Website:
www.gov.mb.ca/conservation/sustainabilityreport/

CHAPTER ONE

NATURAL ENVIRONMENT

An essential concept in sustainability is that human well-being is linked with the state of the natural environment. It is a two-way relationship: the environment supports and influences human well-being; and human activities have an impact on the environment. To advance sustainability, it is essential to measure and track the health of the environment and the state of natural resources that sustain human well-being.

Located in the heart of the continent, Manitoba's natural environment includes many of the distinct landscapes found in Canada. Prairie grasslands cover the south, boreal forests make up the majority of the central part of the province, and tundra is found in the northeast. Unique among the Prairie provinces, Manitoba has both an ocean coastline and lakes that are among the largest in Canada and the world. The richness of Manitoba's natural environment requires that we use a wide array of indicators to track its contribution to sustainable development.

Categories presented in the natural environment dimension are:

- Biodiversity and habitat conservation
- Fish
- Forests
- Air
- Water
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Manitoba Sustainability Reporting
Manitoba Conservation
Suite 160 – 123 Main Street
Winnipeg, MB R3C 1A5
Phone: 204-945-7100
Fax: 204-948-2357
E-mail: sustreport@gov.mb.ca
Website:
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BIODIVERSITY AND HABITAT CONSERVATION

Why Is It Important?

Biodiversity refers to the variability, including genetic variability, of living organisms and the ecological complexes of which they are part. Conserving biodiversity is essential for maintaining the health of ecosystems and the essential services they provide to human society. While no one has the capacity to track the number of all species, it is important and possible to monitor those that are particularly sensitive or that are recognized as having unique ecological, economic or cultural importance to society.

Indicators and Trends

The following key indicators reflect trends in the area of biodiversity and habitat conservation in Manitoba:

- **Natural Lands and Protected Areas** which is measured by amount of total designated and protected land.
- **Wildlife Species and Ecosystems at Risk** which is measured by species designated under *The Endangered Species Act* of Manitoba.

Natural Lands and Protected Areas

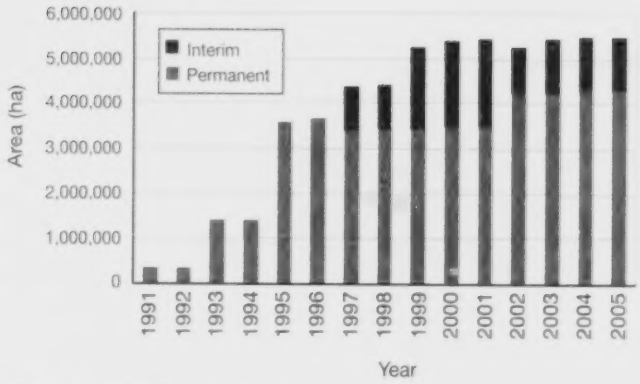
TREND – POSITIVE

Manitoba's natural lands play a key role in sustaining ecosystems and biodiversity. In 2000, the Manitoba government released *An Action Plan for Manitoba's Network of Protected Areas*. The plan outlines the steps to establish protected areas and identifies methods and criteria used to choose them and assess how they contribute to achieving the protected areas goal, which is to create a network of protected lands that represent the biodiversity in each of Manitoba's natural regions.

Figure 1-1 shows changes in the area of lands under protection. Currently, 5.4 million hectares (or 8.4 per cent of Manitoba) are protected. This includes two national parks, 18 ecological reserves, all or parts of 42 provincial parks and interim protected park reserves, all or parts of 43 wildlife management areas, two areas designated under *The Forest Act*, and various parcels of private land owned by a conservation agency.

Since the 1990s, significant progress has been made in expanding the network of permanent and temporary protected areas with many areas receiving permanent parks designations since 2000. This has been achieved with the cooperation and support of the major resource users, especially the mining and forestry sectors and First Nations.

Figure 1-1. Change in Protected Area Network – Total Hectares and Level of Protection



Source: Manitoba Conservation

Wildlife Species and Ecosystems at Risk

TREND – UNCLEAR

Species at risk are animals and plants that are endangered, threatened or extirpated. Habitat loss and invasive alien species are widely recognized as the two main threats to wildlife. Preventing species from becoming rare or at risk can be more cost-effective than recovery programs for species at risk.

While the population trends for some species are well-known, we have little to no data on the population status or trends for the vast majority of species native to Manitoba. This is also true for the 28 species of plants and animals that are designated under *The Endangered Species Act* of Manitoba as endangered, threatened or extirpated. Of these, 15 species are also considered at risk on a national scale.

Some species are not designated at risk but are vulnerable to changes in their environment, such as woodland caribou. They are found throughout much of the eastern and northern boreal forests, but have not been in the Whiteshell or southern areas since the 1950s. The polar bear has also been the focus of concern, as bears in the Western Hudson Bay population are showing lower body weights than in previous years.

One endangered species that has been brought part way back from the brink is the peregrine falcon. These birds of prey have responded positively to a ban on the use of hazardous organochlorines, such as DDT, and to releases of birds into the wild. Several pairs of peregrine falcons, which typically breed on remote northern cliffs, currently nest each year in Winnipeg and Brandon.

Implications for Sustainability

While progress has been made by increasing protection, natural habitats continue to be under growing threat from external factors, such as exotic species. The resulting reduction in biodiversity may make our environment less sustainable in the long term and could result in higher economic costs for industry, agricultural producers, government and individual Manitobans.

While the picture on species at risk is mixed or unclear due to lack of data, there are signs of success and hope. In a number of cases, populations of endangered species responded well to conservation measures and rebounded. There are even examples, such as the Canada geese, where increased population has led to new problems caused by overabundance. This underlines that sustainability is neither an end point nor a pathway for unlimited growth. It is much more about maintaining viable and resilient populations of wildlife species around a socially and ecologically acceptable medium. For Manitoba's woodland caribou population, a management strategy has been developed. This strategy is in place to minimize impacts on woodland caribou, and ensure the viability of the species by working with the various stakeholders now and in the future. This will continue to be a priority.

Success, in particular cases, should not detract us from the fact that all species do not respond equally to conservation measures. Also, not all species have the same visibility and direct economic importance as waterfowl and other big game animals. The intensity and success of conservation measures in such cases is much more uncertain. Currently, the inventory and monitoring of species of concern is among the weakest link in the chain of conservation actions. Information gathered through well-designed monitoring systems is essential for making sound conservation decisions and to support sustainable development.

For More Information

- More information related to biodiversity and habitat conservation is available at:
  www.gov.mb.ca/conservation/wildlife/ and
  www.gov.mb.ca/waterstewardship/water_quality.index.html
  This includes topic areas such as exotic invasive species, habitat management and migratory game birds.
- More detailed information on Manitoba's protected areas initiative is available at:
  www.gov.mb.ca/conservation/pai/
- More information on provincial parks is available at:
  www.gov.mb.ca/conservation/parks/index.html
- More information on ecological reserves is available at:
  www.gov.mb.ca/conservation/parks/ecological_reserves/index.html
- The following link also contains downloadable Manitoba government land related information from a variety of departments and agencies for use in GIS systems:
  www.web2.gov.mb.ca/mli/

FISH

Why Is It Important?

A large part of Manitoba is covered by lakes and rivers with rich fisheries resources that have economic and ecological, as well as social and cultural, value. The image of pristine northern lakes and trophy walleye or northern pike attract a large number of visitors to the province. Fish and other aquatic organisms are also essential components of biodiversity.

Commercial fishing is a valuable industry in Manitoba with $30 million in annual sales representing a significant contribution to Manitoba's economy. For over 100 years, Manitobans have been commercially harvesting fish, with the majority of production coming from Lake Winnipeg and Lake Manitoba. Several smaller lakes in southern and northern Manitoba are also fished, and this activity provides important jobs and economic opportunities at the local level. Sport fishing has become a billion dollar industry in Canada providing economic benefits to communities throughout Manitoba. Proper management of the fishery and fish habitat is critical to allow fish populations to remain viable and ensure a way of life for many Manitobans.

Indicators and Trends

The following key indicators reflect trends in Manitoba's fish resources:

- **Fish Species Biodiversity and Population** which is assessed by determining the number of fish species present, and relative numbers of each of those species in a given ecosystem.
- **Commercial Fish Harvest Trends** which are used to help determine the status of fish populations by comparing harvest levels to a lake's capacity to produce fish Maximum Sustainable Yield (MSY) estimates and whether the trend is increasing or decreasing.

Fish Species Biodiversity and Population

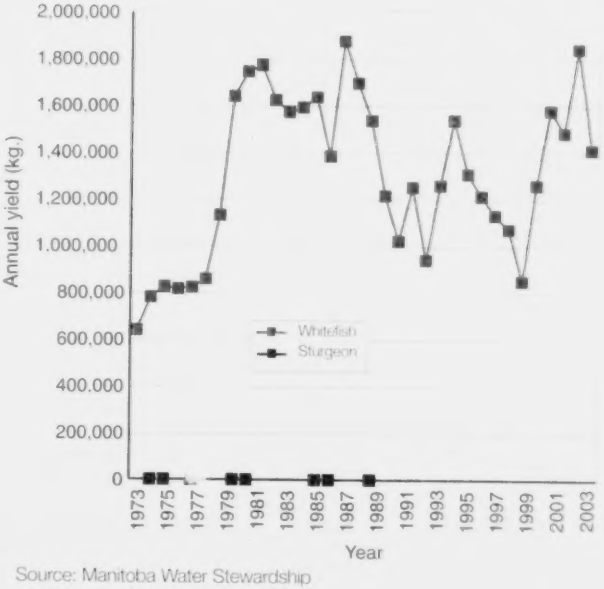
TREND – CHANGING

Fish species biodiversity includes species richness (the number of species) and species evenness (the relative contribution of those species present). Manitoba has 89 fish species. Lake Winnipeg has the same species richness that it did in the late 1800s but there have been significant changes in the abundance of several fish species. High value species, such as sturgeon and trout, were sensitive to pressure from large scale commercial fishing and saw early population declines. This was followed by species that could survive more fishing pressure, such as whitefish, followed by walleye and sauger.

Figure 1-2a. Lake Winnipeg Commercial Fishery Yields Walleye, Pike, Sauger

Source: Manitoba Water Stewardship

Figure 1-2b. Lake Winnipeg Commercial Fishery Yields Whitefish, Sturgeon



Source: Manitoba Water Stewardship

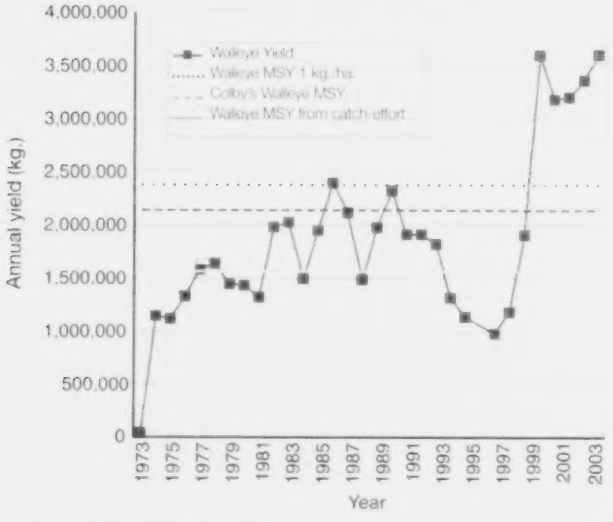
Commercial Fish Harvest

TREND – VARIES DEPENDING ON FISHERY

Fisheries trends are viewed from the perspective of maintaining the long-term sustainability of fish stocks while allowing annual fish harvests. The largest commercial fishery in Manitoba is on Lake Winnipeg and the highest valued species is walleye. The recent increase in walleye yields shown on Figure 1-3 may be explained by the invasion of smelt, which have become a favourite food item of walleye. Some of the trends are also due to changing market demands and the switch in market preference from whitefish to walleye and sauger starting in the 1980s. Harvests that exceed maximum sustainable yields (MSY) pose an increased risk to the sustainability of the fishery. Both Lake Winnipeg's and Lake Manitoba's fishery trends indicate that the resource is fully allocated.

As part of its mandate, Manitoba Water Stewardship undertakes a number of fisheries management initiatives to sustain walleye and sauger stocks while supporting the largest freshwater fishery west of the Great Lakes. Figures 1-3 and 1-4 demonstrate the relationship of annual walleye yields to three estimates of walleye MSY in the Lake Winnipeg and Lake Manitoba commercial fisheries.

Figure 1-3. Lake Winnipeg's walleye Maximum Sustainable Yield compared to walleye yields.



Source: Manitoba Water Stewardship

Figure 1-4. Lake Manitoba's walleye Maximum Sustainable Yield compared to walleye yields.

Source: Manitoba Water Stewardship

Implications for Sustainability

To better understand sustainability implications for Manitoba's fisheries, there is a need for better data and monitoring, improved science to understand both the ecology and social aspects of fisheries management and more substantive stakeholder involvement in the decision-making process. Based on the observed trends, there is still insufficient evidence to determine whether the policies currently in place will be sufficient. The emphasis on sustainable fisheries management holds promise, but only long-term monitoring of stocks and policy impacts can tell if we are managing the resources successfully and adaptively.

The health of fish habitat in Manitoba continues to be affected by pressures, such as intensive agricultural production and forestry. Compared with presumed pre-settlement conditions, fish habitat, particularly in the southern part of Manitoba, is at higher risk of degradation. Increasing emphasis on riparian zone management and sustainable land and watershed management indicate that if conservation measures are implemented systematically and industry-wide, the impact on fish habitat will be positive and ultimately contribute to more robust fisheries.

For More Information

- More information on Manitoba's fishery resources, including commercial and recreational harvesting, is available at: **www.gov.mb.ca/waterstewardship/fish/index.html**

FORESTS

Why Is It Important?

Forests provide food and medicine, tourism and educational opportunities, places for recreation and spirituality and economic opportunities through sustainable forest harvesting. Manitoba is home to one of the last remaining large and intact blocks of boreal forests in the world. Forests provide wildlife habitat, improve air quality, moderate temperatures and minimize soil and water erosion. They also play an important role in global cycles by recycling water, carbon, oxygen and other substances.

Indicators and Trends

The following key indicators reflect trends in Manitoba's forest resources:

- **Forest Type and Age Class** which is a measure of the area and extent of the forest land base and its forest types.
- **Forest Renewal** which is a measure reflecting whether forested areas are brought back to pre-harvest conditions, maintaining ecosystem stability.

Forest Type and Age Class

TREND – STABLE

The characterization of the area and extent of the forest land base and its forest types are the foundation upon which allocation and management of forest lands, and their use and preservation, are based. The intent of tracking this indicator is to ensure that various forest uses do not reduce the diversity of forest types and ages.

Manitoba's forest zone is 38.7 million hectares, comprising the southern 60 per cent of the province. Approximately 22 per cent, or 14.3 million hectares, of the forest zone is productive forest, including the Aspen Parkland section, which largely coincides with Manitoba's agriculture zone. Manitoba's Forest Resource Inventory categorizes forest stands by species and age. The table below shows forest age distribution over the past decade.

Over the past two decades, fire has been the most significant influence on forest type and age distribution in Manitoba's boreal forest, where the majority of commercial harvesting occurs. Other natural impacts, such as insect infestations, disease outbreaks and weather events, e.g., wind throw and flooding, have created forest change. The primary human impacts on forest lands in recent decades have been from resource extraction, such as timber harvesting, mining and conversion of forest land to agriculture. On average, fire affects about three times the area of harvest activities. From 1996 to 2000, an average of about 45,300 hectares of productive forest land burned annually, compared to about 15,700 hectares harvested.

Forest Renewal

TREND – STABLE

The renewal of forests after disturbance – whether natural or caused by humans – is an essential condition for sustainability. Forest renewal happens naturally, but it can be enhanced through forest management. Manitoba's Forest Renewal Program aims to regenerate satisfactorily all harvested forests to their pre-harvest condition, thereby maintaining the existing mosaic of forest ecosystem stand types and ensuring sustainability. A measure of area harvested versus area successfully reforested tells us whether reforestation methods are successful. Tracking the area harvested, as well as volume and diversity provides a link to biodiversity and habitat conservation.

In total, 14,849 hectares were harvested in 2001/02, of which 9,772 hectares were softwood forests. Approximately 9,949 hectares of softwood stands were treated for reforestation in 2002/03 and the rest were left for natural regeneration.

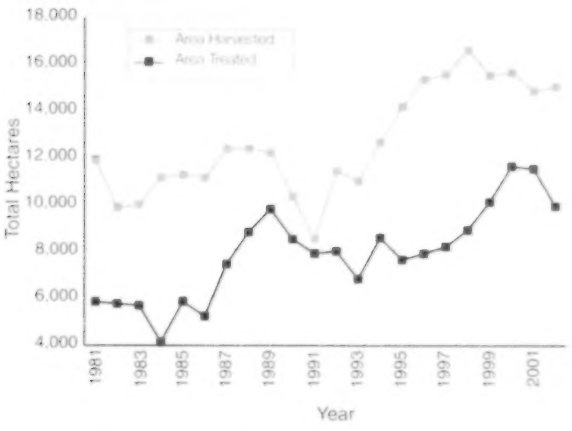
Table 1-1. Age Class Distribution of the Productive Forest Zone (in hectares): Provincial Crown Land – Open Zone

YEAR	POTENTIAL	REGENERATING	YOUNG	INTERMEDIATE	MATURE	OVER MATURE	TOTAL PRODUCTIVE FOREST LAND
1991	1,594,875	1,168,740	3,130,528	4,697,180	1,926,317	361,425	12,879,065
1996	2,521,587	1,050,306	2,636,039	4,032,918	1,786,108	389,548	12,416,506
2001	2,708,062	1,041,092	2,582,662	3,821,952	1,716,972	428,584	12,299,324 [1]

[1] Reduction in total hectares of productive forest zone is a result of changes in land status, for example, to provincial parks.

Since 1996, expanded poplar harvest (approximately 30 per cent of the annual harvest area) increased the area targeted for natural regeneration, as poplar regenerates readily from root suckering.

Figure 1-5. Manitoba Total Hectares Treated



Source: Manitoba Conservation

Figure 1-5 refers to areas that have been scarified for natural regeneration, seeded and plantations established. Annual fluctuations are a result of harvesting activities.

Implications for Sustainability

Based on the available information, Manitoba's overall forest stock is stable. Closer monitoring will be needed as new external pressures, such as climate change or exotic species, start having an effect.

Climate change may have significant impacts on forests through increasing fire frequency and intensity and insect outbreaks. Persistent warming could cause the prairie-forest zone to move northward at a faster rate than the forest zone can migrate onto the tundra, resulting in a net decrease in forest land. Keeping track of Manitoba's forest capital is increasingly important in relation to our response to climate change. The strategy under Manitoba's Climate Change Action Plan includes forest management practices to facilitate carbon sequestration (removal of carbon dioxide from the atmosphere by vegetation).

Exotic species introductions can be expected to grow as a result of global trade and climate change. The associated risk of damage to forest ecosystems can also be expected to increase.

Continued research is required to assess and adaptively manage the impact of forest resource development. Research partnerships, such as the Sustainable Forest Management Network, will be critical to Manitoba. Local organizations, such as the Manitoba Model Forest, can prove invaluable in testing new tools and methods and adopting them to conditions in the province.

For More Information

- More information on Manitoba's forests is available at: **www.gov.mb.ca/conservation/forestry/index.html**
- The Manitoba Model Forest website is located at: **www.manitobamodelforest.net/**

AIR

Why Is It Important?

The air we breathe has a large impact on our lives and can impact our health and well-being and our quality of life. It is important to monitor air quality locally where certain conditions may lead to air quality problems. It is important to have indicators of air quality in order to monitor and better understand how it can impact our well-being.

Indicators and Trends

The following key indicator reflects trends in Manitoba's air:

- **Urban Air Quality Index (AQI)** which is a measure of overall air quality based on a number of potential contaminants and which provides a general understanding of air quality.

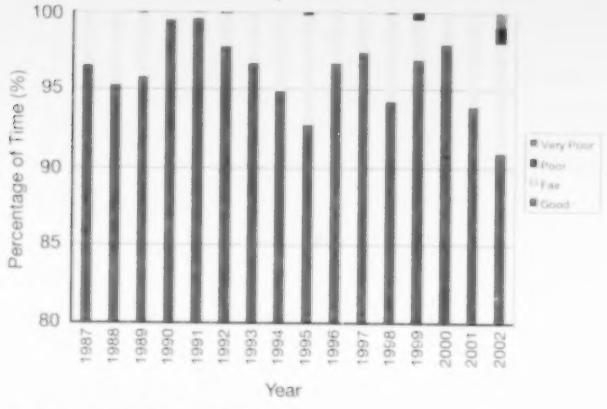
Urban Air Quality Index (AQI)

TREND – WINNIPEG & BRANDON UNCHANGED; FLIN FLON IMPROVING

In Manitoba, air quality issues tend to be mostly local in nature and primarily relate to odour and other pollutants released from specific local sources or activities. In northern Manitoba, emissions from the base metal smelters in Flin Flon and Thompson and smoke from forest fires tend to be the most significant sources of air pollution.

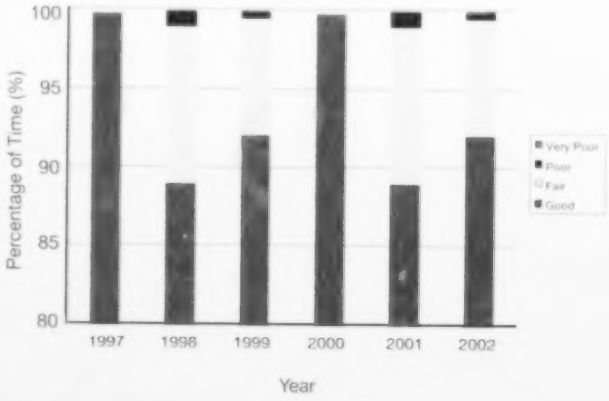
Winnipeg's AQI is based on air monitoring data for carbon monoxide, particulate matter (PM10), nitrogen dioxide, ground-level ozone and coefficient of haze or soiling (which has been replaced with fine particulate matter (PM2.5)). Since 1995, as part of a joint Manitoba Conservation and Environment Canada program, the AQI for Winnipeg has been reported by Environment Canada on the weather channel on Winnipeg cable television. The AQI is also accessible through Environment Canada's automated phone-in weather information service.

Figure 1-6. Winnipeg Air Quality Index – Downtown



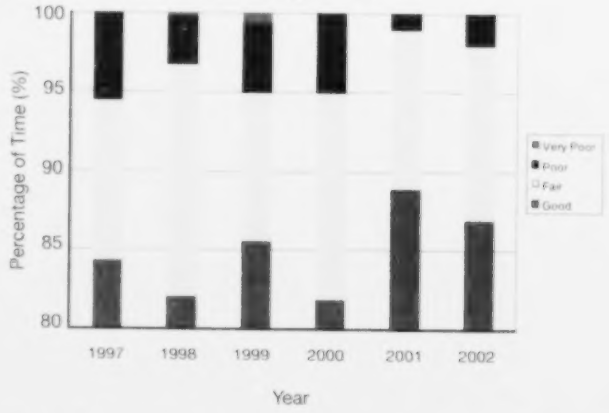
Source: Manitoba Conservation

Figure 1-7. Brandon Air Quality Index



Source: Manitoba Conservation

Figure 1-8. Flin Flon Air Quality Index



Source: Manitoba Conservation

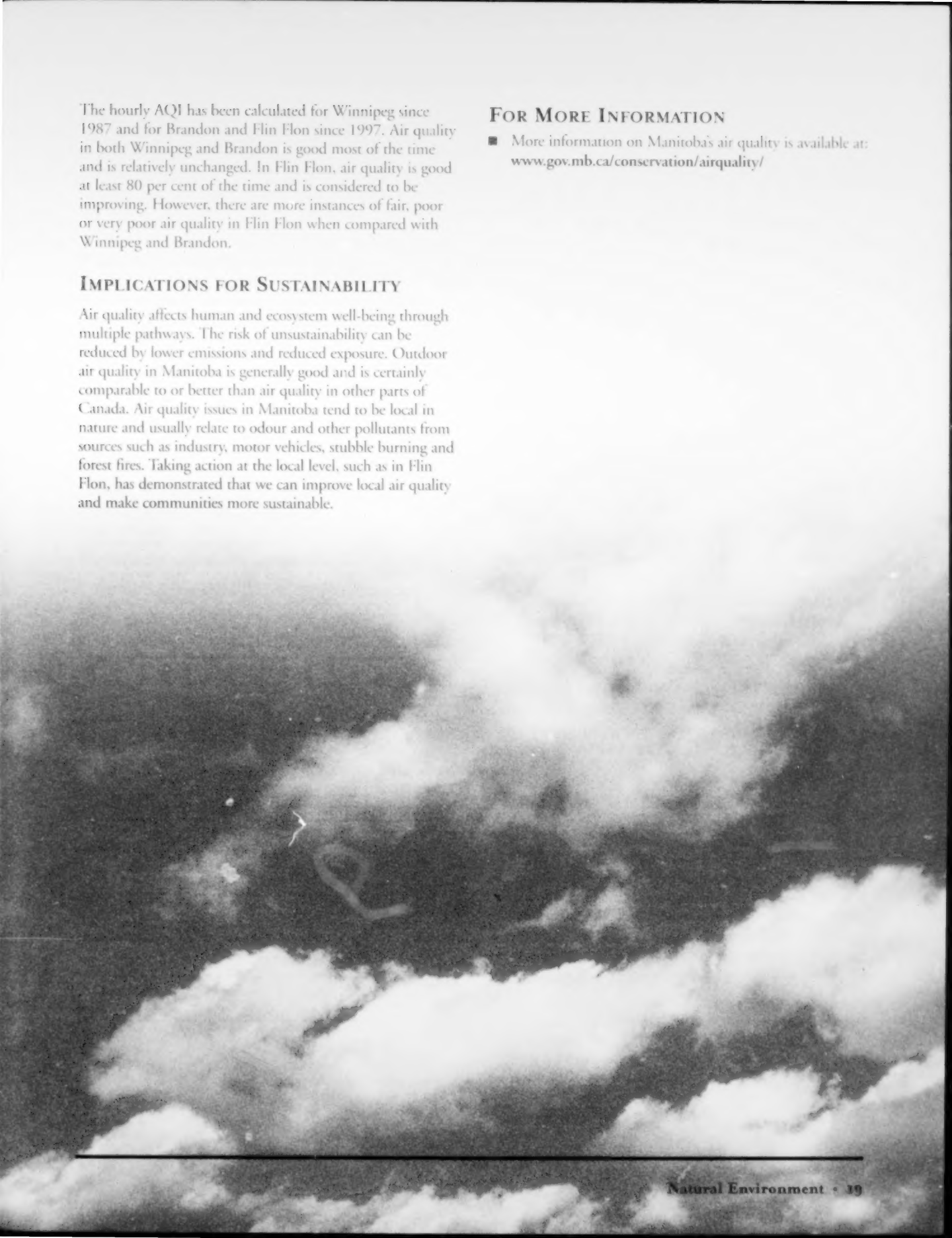
The hourly AQI has been calculated for Winnipeg since 1987 and for Brandon and Flin Flon since 1997. Air quality in both Winnipeg and Brandon is good most of the time and is relatively unchanged. In Flin Flon, air quality is good at least 80 per cent of the time and is considered to be improving. However, there are more instances of fair, poor or very poor air quality in Flin Flon when compared with Winnipeg and Brandon.

Implications for Sustainability

Air quality affects human and ecosystem well-being through multiple pathways. The risk of unsustainability can be reduced by lower emissions and reduced exposure. Outdoor air quality in Manitoba is generally good and is certainly comparable to or better than air quality in other parts of Canada. Air quality issues in Manitoba tend to be local in nature and usually relate to odour and other pollutants from sources such as industry, motor vehicles, stubble burning and forest fires. Taking action at the local level, such as in Flin Flon, has demonstrated that we can improve local air quality and make communities more sustainable.

For More Information

- More information on Manitoba's air quality is available at: **www.gov.mb.ca/conservation/airquality/**



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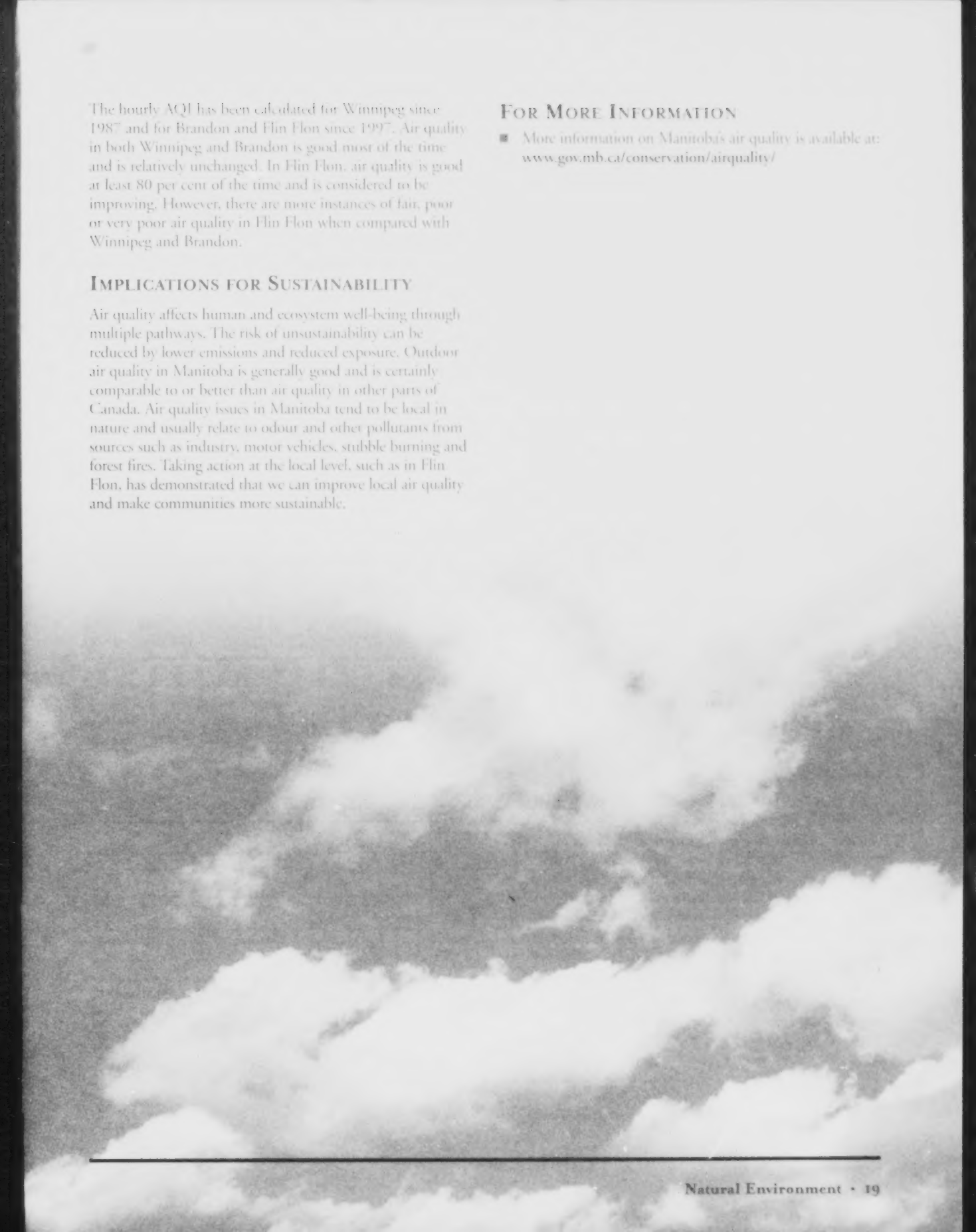


WATER

Why Is It Important?

Manitoba has an abundance of lakes, rivers and streams that are crucial to the economic and physical health of Manitobans. We depend on the flow of water for almost every aspect of our lives, including hydroelectricity, fishing, agriculture and industrial uses. Hundreds of millions of dollars are generated each year as a direct result of our vast supplies of fresh water. As individuals and communities, we depend on water for our good health and, collectively as a province, water makes a major contribution to our prosperity.

With more than 100,000 lakes, Manitoba has an ample supply of fresh water. In fact, more than 15 per cent of the province's area is water, roughly 10.2 million hectares. Manitoba recognizes that this fresh water supply is not unlimited and proper stewardship of this resource will ensure good quality and an adequate quantity of water for future generations.

Indicators and Trends

The following key indicators reflect trends in Manitoba's water:

- **Water Quality** which is assessed using a measure called the Water Quality Index to determine a general understanding of Manitoba's water quality.
- **Water Allocation/Consumption** which is measured to determine how much water is allocated and consumed in Manitoba and by what sector or group.

Water Quality

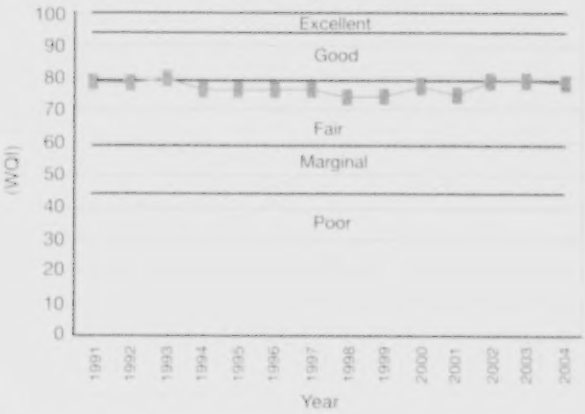
TREND – STABLE

Water quality in Manitoba continues to be an issue for Manitobans. Human requirements for water include: domestic consumption; agricultural activities, such as irrigation and livestock watering; and recreational activities. Surface waters also provide habitat for aquatic life, ranging from micro-organisms, such as bacteria and algae, to fish, as well as wildlife, such as ducks and beaver. Human activity can have an impact on water uses and aquatic life as expanding development increases the potential for pollution of Manitoba's water resources.

Manitoba generally has a good record of water quality management. However, water quality may be threatened in some regions, especially through nutrient enrichment of lakes and rivers. For instance, there are concerns about the water quality of Lake Winnipeg due to elevated nutrient levels. The provincial government's goal is to reduce nutrients in Lake Winnipeg to pre-1970 levels (see box story on Lake Winnipeg).

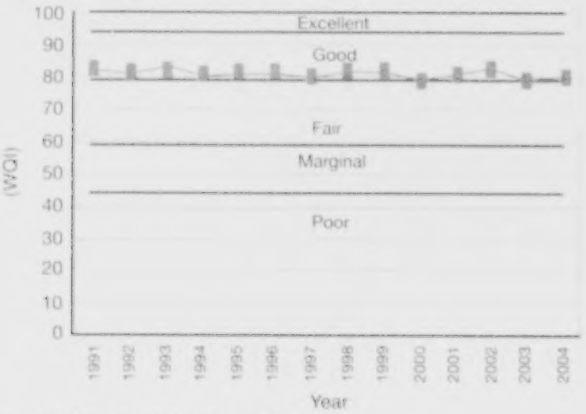
Water Quality Index: The Water Quality Index (WQI) used in Manitoba was developed through the Canadian Council of Ministers of the Environment (CCME). Indices from the Prairie Ecozone were in the range of "fair" water quality (Figure 1-9). The overall average prairie index in 1991 was 79 and in 2004 was 78 or just below the water-quality category of "good". Indices from sites in the Boreal Plains Ecozone were generally in the range of "good" water quality except for slight dips to 79 in 2000 and 2003 (Figure 1-10). The overall average Boreal Plains Ecozone index in 1991 was 86 and in 2004 was 82. Indices from the Boreal Shield Ecozone were generally in the upper range of "good" water quality (Figure 1-11). The overall average Boreal Shield Ecozone index in 1991 was 89 and in 2004 was 90. For locations, please refer to the map of Manitoba in the introduction of this report.

Figure 1-9. Prairie Ecozone Water Quality Index



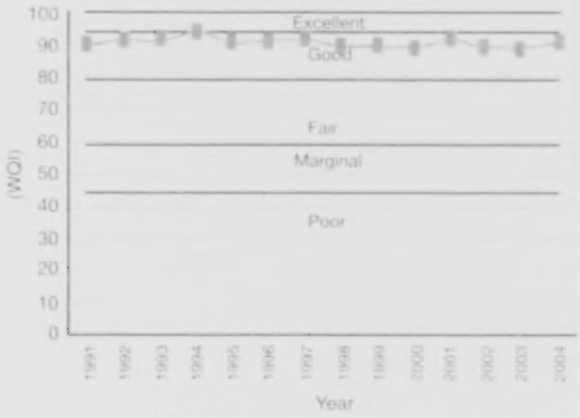
Source: Manitoba Water Stewardship

Figure 1-10. Boreal Plains Ecozone Water Quality Index



Source: Manitoba Water Stewardship

Figure 1-11. Boreal Shield Ecozone Water Quality Index



Source: Manitoba Water Stewardship

Water Allocation/Consumption

TREND – MUNICIPAL USE POSITIVE; AGRICULTURAL AND INDUSTRIAL USE NEGATIVE

Water allocation/consumption has increased annually since 1996 for agricultural, industrial and irrigation use (Table 1-2).

Table 1-2. Water Allocation by Sector

YEAR	AGRICULTURE*	INDUSTRIAL*	IRRIGATION*
1996	2965	42650	45788
1997	3091	43250	46039
1998	3326	52793	46364
1999	3979	63872	46743
2000	4304	65725	47380
2001	5130	68549	49048
2002	5743	68654	50676
2003	6072	68892	52771
2004	6490	69035	53970

* Measured in cubic decametres

Source: Manitoba Water Stewardship

Drought and an increase in the cultivation of specialty crops may account for some of the rise in irrigation use. Potatoes represented 80 per cent of 2001 total irrigated acreage. In 2001, surface water supplied 57 per cent of the water applied to irrigated acreage. This water came primarily from the Assiniboine Delta Aquifer and the Assiniboine River system.

Data on municipal water use, representing 127 municipalities, not including the City of Winnipeg, indicates that consumption decreased in 2001 (114,465,363 cubic decametres) from 1996 values (129,748,525 cubic decametres). Groundwater used by municipalities grew from 53.5 per cent in 1996 to 70 per cent in 2002.

From a consumption perspective, municipal water consumption has decreased in Manitoba – a promising trend. But it is estimated from National Studies that 40 per cent of our residential water use still goes to flushing toilets, indicating there is much progress to make. Such progress could potentially reduce costs of water treatment and help to relieve pressure on local water supplies.

Implications for Sustainability

In 2003, the Manitoba government released *The Manitoba Water Strategy*. This strategy sets up the framework for management and protection of water in the province. The goals are to address cumulative issues from numerous activities in a watershed or between watersheds, have appropriate legislation to enable effective management options and have a financing framework that allows for effective implementation and future management actions. *The Water Protection Act* was passed in June 2005 and will provide the authority to set targets for water quality, establish water quality management zones and undertake watershed planning within the province.

In the background of this discussion is climate change. The risk is real in Manitoba and our water resources are indeed vulnerable. Responsible management of the quantity and quality of our water resources now, and in the future, will be crucial to Manitoba's ability to be resilient to a range of potential climate changes.

For More Information

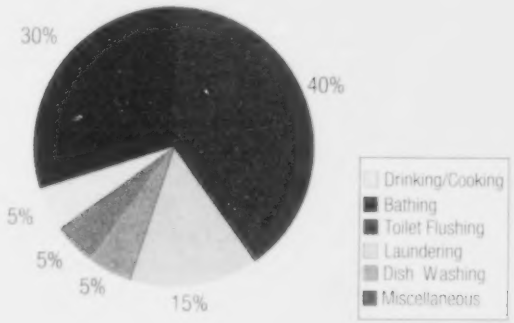
- More information on Manitoba's water quality, water use and other aspects of Manitoba's water resources is available at: **www.gov.mb.ca/waterstewardship/**

FOCUS ON WATER

Drinking Water

More than 75 per cent of Manitoba's population uses public water systems. There are approximately 386 public, 1,500 semi-public and 35,000 private water systems in the province. Surface water accounts for approximately 73 per cent of the total drinking water consumption. Regardless of their distribution, ground and surface water are closely tied to each other. Groundwater can take tens to thousands of years to replenish and, therefore, is not as readily renewable as surface waters. The Office of Drinking Water (ODW) was established in 2002 to deal with drinking water issues and has responsibility for monitoring many chemical and microbiological parameters. This will enable potential and existing sources of contamination to be determined.

Figure 1-12. Distribution of Residential Water Use in Manitoba

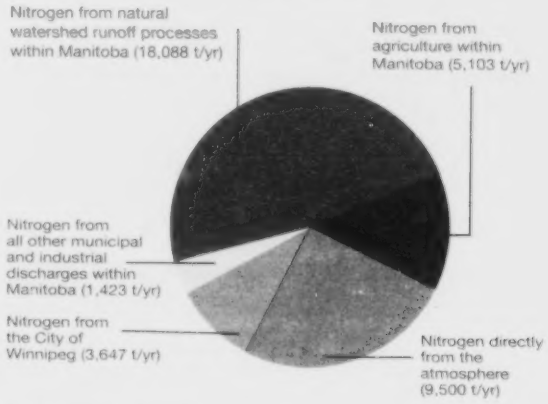


Source: Manitoba Health

Lake Winnipeg

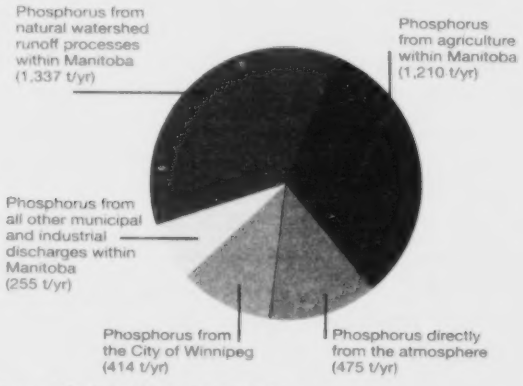
Lake Winnipeg is the world's tenth largest freshwater lake, covering almost 24,000 square kilometres in surface area. The lake is not only an important symbol for our province, it also plays a vital role as a fishery, a hydroelectric reservoir, a transportation corridor, a source of drinking water and a recreational and tourism destination. Lake Winnipeg also has immense intrinsic value as vital habitat for life within the lake and on its shores. Recent studies conducted by Manitoba Water Stewardship and other agencies indicate that the lake is slowly changing. It is believed that excess harmful nutrients from various sources throughout the drainage basin are causing the lake to become enriched, allowing for more frequent growth of algae, affecting fish habitat, recreation, other important water uses and clogging fishing nets. In February 2003, the Manitoba government announced the Lake Winnipeg Action Plan, a commitment to reduce nitrogen and phosphorous levels in Lake Winnipeg to pre-1970 levels. The Lake Winnipeg Stewardship Board was established in July 2003 as part of the Lake Winnipeg Action Plan to help the public identify and implement actions needed to reduce harmful nutrient levels in the lake. The Lake Winnipeg Stewardship Board's Interim Report was released in February 2005 and contains numerous recommendations to help government reach nutrient reduction commitments.

Figure 1-13. Relative contribution of nitrogen loading to Lake Winnipeg from Manitoba sources.


Nitrogen from natural watershed runoff processes within Manitoba (18,088 t/yr)
Nitrogen from agriculture within Manitoba (5,103 t/yr)
Nitrogen from all other municipal and industrial discharges within Manitoba (1,423 t/yr)
Nitrogen from the City of Winnipeg (3,647 t/yr)
Nitrogen directly from the atmosphere (9,500 t/yr)

Source: Manitoba Water Stewardship

Figure 1-14. Relative contribution of phosphorus loading to Lake Winnipeg from Manitoba sources.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Phosphorus from the City of Winnipeg (414 t/yr)
Phosphorus directly from the atmosphere (475 t/yr)

Source: Manitoba Water Stewardship

Devils Lake

Devils Lake, in North Dakota, is a closed body of water largely isolated from the Hudson Bay drainage basin. Since the early 1990s, lake levels have risen approximately eight meters due to excessive inflow to the lake causing millions of dollars in damage to local property and infrastructure. The State of North Dakota is constructing an outlet from Devils Lake to waters within the Hudson Bay drainage basin that will eventually flow into Manitoba. Manitoba has strongly opposed the outlet project due to the negative environmental impacts that the project could have on Manitoba's ecosystem, including Lake Winnipeg. Because Devils Lake is landlocked, its water quality is much poorer with high concentrations of dissolved salts than is found in nearby lakes and rivers, including the Red River and Lake Winnipeg. Manitoba is also concerned with the transfer of non-native species from Devils Lake to Lake Winnipeg through a constructed outlet that would place an unacceptable risk to our important fishery resources. The effects of non-native species in Manitoba's waters would be irreversible. Manitoba and Canada, along with numerous other provinces and states, are actively urging the United States government to refer the Devils Lake issue to the International Joint Commission (IJC) for resolution. The IJC was established by the 1909 Boundary Waters Treaty to impartially prevent or resolve water disputes between the United States and Canada.

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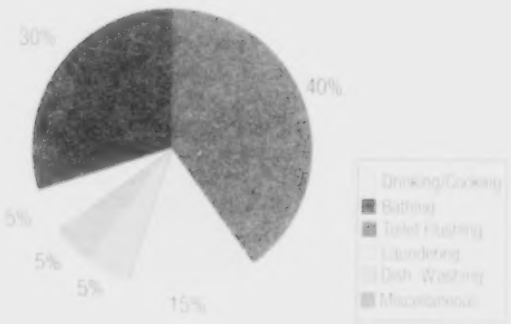

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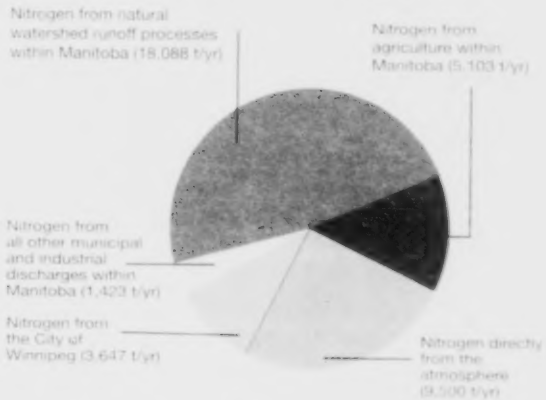
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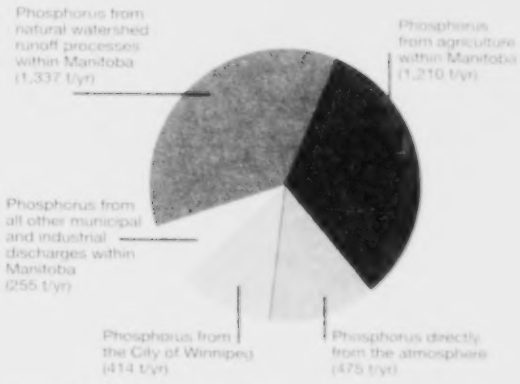
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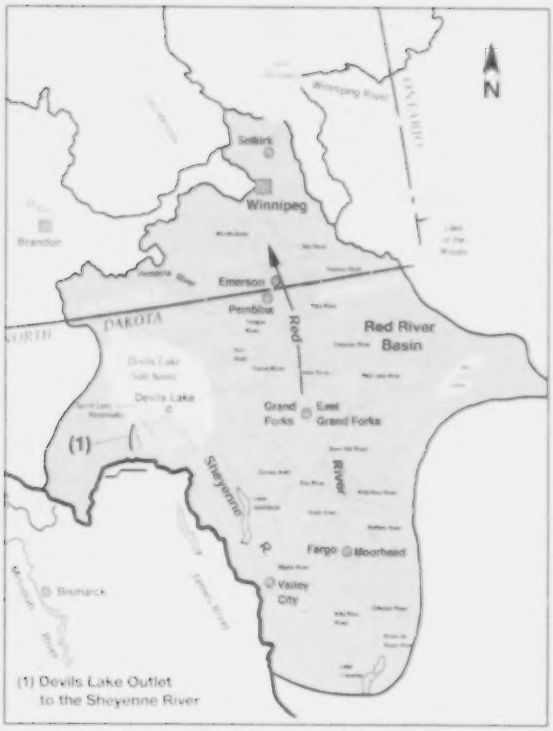


CLIMATE CHANGE

Why Is It Important?

Climate change has the potential to affect our lives and the environment in which we live. We know that Manitoba's climate has begun to change but we do not yet fully understand what impacts these changes may have on us, because of the complexity of the links between climate, people and our environment. Climate affects almost everything we do, from the building of winter roads in the north to growing potatoes in the south. We rely on certain weather conditions to be able to maintain our lifestyles and ensure sustainable growth. Indicators are important for measuring the relative changes in our province resulting from changes in our climate.

Indicators and Trends

The following key indicators reflect trends in climate change observations in Manitoba:

- **Average Annual and Seasonal Temperature** which is measured to monitor temperature trends as a relative indicator of climate change.
- **Total Annual and Seasonal Precipitation** which is used as an indicator of precipitation trends as a measure of potential climate change.
- **Greenhouse Gas Emissions** which provides a measure of the compounds emitted into Manitoba's air which can potentially affect our climate.

Detecting long-term climate trends in Manitoba, or anywhere else, is made difficult by the natural short-term variability of the climate. In particular, there are large-scale processes that can affect the climate over periods of months and years. Many of these processes involve ocean currents and the movement of heat and moisture in the atmosphere over periods of years or decades. Weather patterns at some locations are susceptible to influences from these shifts in heat and moisture.

Average Annual and Seasonal Temperature

TREND – NEGATIVE

Analysis of the temperature records for Manitoba reveals a trend of increased annual average and seasonal temperature for the majority of locations (Figure 1-15). The average annual temperature increase ranges between 0.9 to 3.3 °C per century. The largest rise in average temperature was in the spring, with locations experiencing a change at the rate of anywhere from 1.4 to 5.8 °C per century. The upward trend for spring is closely followed by that for winter, with trends ranging between 1.5 to 5.3 °C per century. Summer trends are somewhat lower and range from 0.7 to 2.5 °C per century. The largest increases are found at Brochet in northwestern Manitoba, where the annual temperature increased by 3.3 °C per century.

Figure 1-15. Seasonal Total Temperature Trends

Source: Manitoba Energy, Science and Technology

Total Annual and Seasonal Precipitation

TREND – NEGATIVE

Analysis of the total precipitation records, including rain and snow, indicates a trend toward increased annual total precipitation for a few locations. The annual total precipitation trend is an increase of 2.7 to 3.8 per cent per decade. The largest changes in total precipitation were in the winter, with locations experiencing changes ranging from 6.9 to 7.4 per cent per decade. As for seasonal changes in precipitation, there are a number of increasing trends (Figure 1-16). For four locations, there was an increasing trend in several seasons. It is interesting to note that no significant trends were detected at the southern Manitoba locations with the longest data records, such as Brandon, Winnipeg and Morden.

Figure 1-16. Seasonal Total Precipitation Trends

Source: Manitoba Energy, Science and Technology

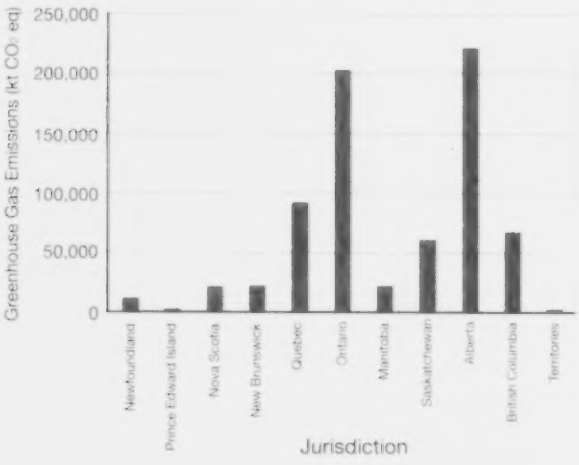
Greenhouse Gas Emissions

TREND – STABLE

Greenhouse gases play a key role in human-induced climate change. Carbon dioxide is produced mostly through burning fossil fuels for energy and the combustion of gasoline in the transport sector. Other important greenhouse gases include nitrous oxide and methane; nitrous oxide is released through the application of nitrogen fertilizers, soil cultivation and the combustion of fossil fuels and wood, while methane is released primarily by agriculture and landfill sites.

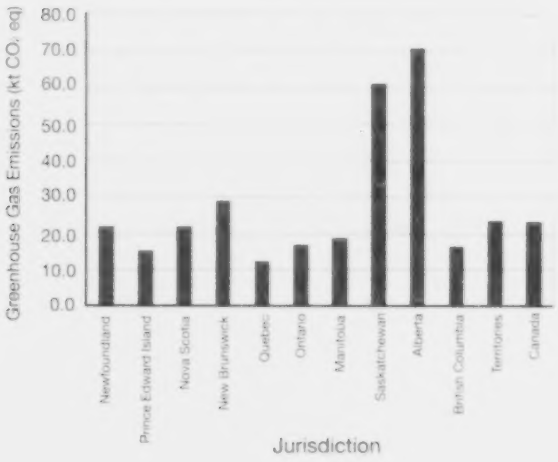
In 2002, Manitoba ranked sixth among the provinces and territories with total greenhouse gas releases of 21,600 kilotonnes of CO_2 equivalent. Manitoba's 2002 emissions were similar to those of Nova Scotia and New Brunswick but much less than the neighbouring provinces of Saskatchewan, Alberta and Ontario (Figure 1-17). On a per capita basis, Manitoba ranked seventh at 18.7 tonnes CO_2 equivalent/person in 2002, compared to the national average of 23.3 tonnes CO_2 equivalent/person (Figure 1-18).

Figure 1-17. Total Greenhouse Gas Emissions in 2002



Source: Environment Canada

Figure 1-18. Per Capita Greenhouse Gas Emissions in 2002

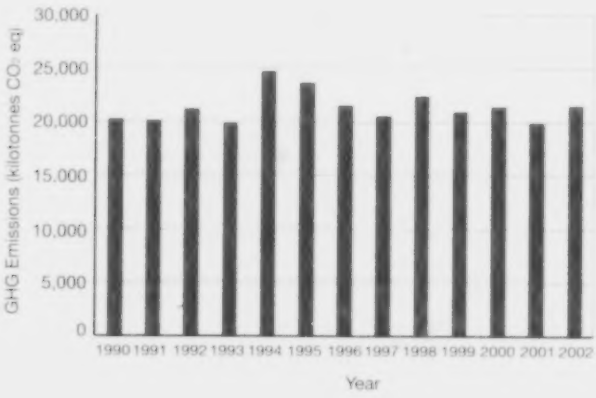


Source: Environment Canada

The trend for Manitoba's total greenhouse gas emissions over the period of 1990 to 2002 is fairly stable (Figure 1-19). With our clean, renewable hydroelectricity, wind, and other renewable energy sources, Manitoba contributes only about 3 per cent of Canada's total greenhouse gas emissions and is well-positioned to assist Canadain meeting our international emission reduction obligations, especially through increased hydroelectric generation for export.

Greenhouse Gas Emissions

Figure 1-19. Manitoba Total Greenhouse Gas Emissions



Source: Environment Canada

Implications for Sustainability

In the coming years, climate change may bring about changes in the frequency and severity of drought, forest fires and insect infestations, and may have an impact on specific species. A recent research report concluded that some species of butterflies are now appearing much earlier in spring than 30 years ago. Impacts on the province may become more apparent in the coming years.

Concern over greenhouse gas emissions has resulted in nations agreeing to work to reduce these emissions. A formal international agreement to reduce greenhouse gas emissions, the Kyoto Protocol, ratified by more than 125 countries including Canada, came into force February 16, 2005. Under the protocol, Canada has committed to reduce its emissions to an average of six per cent below 1990 levels during the period 2008 to 2012.

The Government of Canada released its Climate Change Plan for Canada in November 2002, outlining how it expects to meet our Kyoto Protocol commitments. Manitoba released its Climate Change Action Plan in October 2002, outlining how provincial reductions could meet or exceed Canada's Kyoto Protocol commitments by 2010. The Action Plan states that Manitoba's greenhouse gas emissions can be reduced up to 18 per cent below 1990 baseline levels. This level of reduction can be achieved if renewable energy development becomes a priority in the national market. The Manitoba plan includes proposals to reduce emissions through a number of actions, many of which have been implemented. For example, Manitoba Hydro's Selkirk Generation Station was converted to natural gas in 2002, resulting in a cut of 200 kilotonnes of carbon dioxide emissions per year. In the spring of 2003, the Manitoba government adopted the Ethanol Advisory Panel's recommendations to develop Manitoba's ethanol industry and introduced proposed legislation that would mandate ten per cent ethanol blends in Manitoba by 2005. This will provide a five per cent reduction in tailpipe greenhouse gas emissions.

Responding to climate change clearly touches on a variety of other environmental issues. While reducing solid waste production, improving manure management and ensuring adequate reforestation are all important to pursue on their own individual merits, co-benefits can also be realized by reducing greenhouse gas emissions in each of these areas. Climate change is linked to these and other activities and must be taken into account to improve overall sustainability.

For More Information

- More information on climate change and Manitoba's contribution to Canada's Kyoto Protocol obligations is available at:

  Climate Change Branch, Energy Development Initiative, at Manitoba Energy, Science and Technology – **www.gov.mb.ca/est/climatechange/**

  Energy Development Initiative at Manitoba Energy, Science and Technology – **www.gov.mb.ca/est/energy/index.html**

  Life Sciences Division at Manitoba Energy, Science and Technology houses business development for the Environmental Industries – **www.gov.mb.ca/est/rit/lifesc/structure.html**

  Manitoba Hydro – **www.hydro.mb.ca/**

- Manitoba Agriculture, Food and Rural Initiatives:

  www.gov.mb.ca/agriculture/index.shtml

  www.gov.mb.ca/agriculture/crops/specialcrops/bii01s19.html

  www.gov.mb.ca/agriculture/news/triples/threestage.html

  www.gov.mb.ca/agriculture/research/covering/projects/pdf/cng01-04-44exec-summ.pdf

- Transportation and Government Services (Hydrogen/Ethanol) – **www.gov.mb.ca/est/energy/hydrogen/hy_comite.html** and **www.fva.gov.mb.ca/html/ethanol.htm**

- Air Quality Branch, Manitoba Conservation – **www.gov.mb.ca/conservation/airquality/**

CONCLUSION – NATURAL ENVIRONMENT

Sustainable management of Manitoba's rich heritage of natural resources and ecosystems is a complex task with notable successes and emerging challenges. The list of familiar threats to the environment, such as water pollution, has grown to include risks like climate change and invasive species. Many of these issues are linked and cannot be effectively dealt with in isolation. Integrated programs, such as the Manitoba Water Strategy, take these interactions into account and have promise. The rebound of some formerly endangered species demonstrates that with the right approach adverse trends can be reversed.

However, focused attention is now needed in a number of emerging problem areas. Excessive harmful nutrient loading has contributed to a deterioration of water quality in Lake Winnipeg. Predicting the exact nature of climate change and its effects is uncertain but there is potential for more frequent extreme climate events and higher economic costs. There are many other areas, such as indoor air pollution, where we are unable to pass judgment due to lack of monitoring data. Keeping a close watch over the state of the environment in the face of continuing change will be increasingly important as it may provide the early warning signals we need for successful adaptation.

CHAPTER TWO

ECONOMY

Economic activity is the means by which society provides goods and services while at the same time providing income for households to afford these goods and services. It is an important part of Manitoba's sustainability. Sustainability requires the promotion of economic activity that is ecologically efficient, raises the level of society's economic welfare and can be maintained over the long term.

Within the economic dimension, there are seven categories of indicators:

- Economic performance
- Agricultural viability
- Mining
- Energy efficiency and conservation
- Consumption and waste management
- Employment
- Education

ECONOMIC PERFORMANCE

Why Is It Important?

A strong economy is vital for Manitoba's sustained prosperity. Centred on the province's capital city of Winnipeg, Manitoba has a diverse economy that includes manufacturing (e.g., food processing, aerospace), agriculture, transportation, energy, mining, forestry, insurance and commerce. Supported by low rates for electric power, its strategic central time zone and its affordable cost of living, Manitoba is an attractive location for new business and capital investment.

Indicators and Trends

The following key indicators reflect trends in the area of economic performance in Manitoba:

- **Real Gross Domestic Product (GDP) Per Capita** which is a measure of the total value of final goods and services produced within Canada per person, during a given year.
- **Gross Domestic Product (GDP) by Sector** which is a measure of where economic activity in Manitoba is distributed and the degree of diversification of the economy.

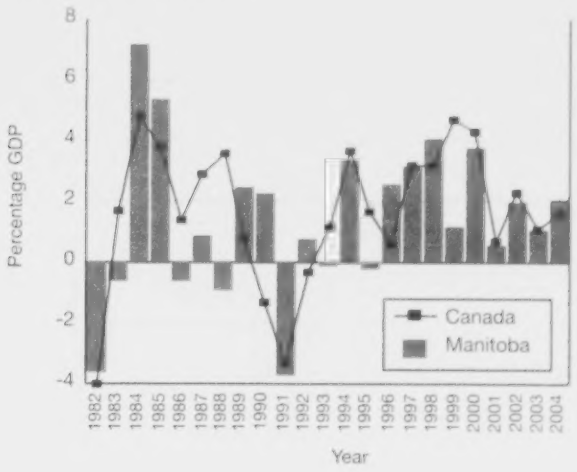
Real Gross Domestic Product (GDP) Per Capita

TREND – STABLE

Real GDP per capita provides a measure that accounts for the size of the economy. Overall, Manitoba's Real GDP per capita has grown in line with overall Canadian growth rates. Our relative level has remained steady over this period at about 89 per cent of the national level. This suggests that, in terms of Manitoba's overall economic performance, the province has been holding its own within Canada.

In 2004, total Real GDP per capita for Manitoba was estimated at $30,267 per person up 2.1 per cent from 2003. Over the past five years, Manitoba's Real GDP per capita has increased by an average of 1.9 per cent annually. Since 1981, Manitoba's Real GDP per capita has increased by 38.2 per cent from $21,903 to $30,267.

Figure 2-1. Real Gross Domestic Product Per Capita Manitoba and Canada



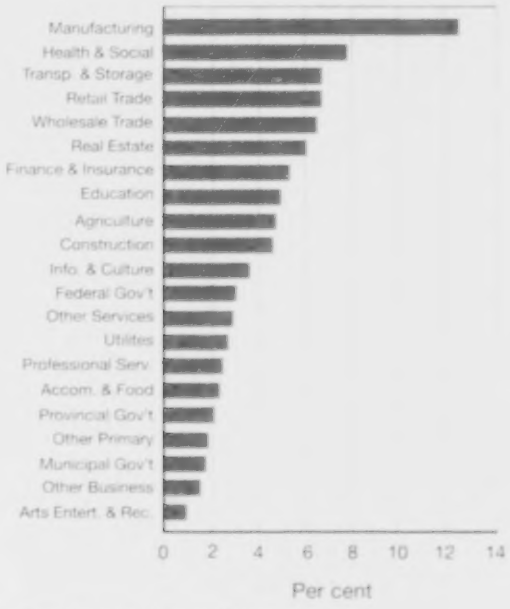
Source: Manitoba Bureau of Statistics

Contributions to Gross Domestic Product (GDP) by Sector

TREND – STABLE

Figure 2-2 illustrates the relative diversity of Manitoba's economy. Manufacturing is Manitoba's largest industry, accounting for approximately 13 per cent of Manitoba's GDP. The majority of Manitoba's manufactured goods are exported. These exports include a diverse mix of industrial and consumer goods, including buses, furniture, food products, newsprint, aerospace equipment, printing and publishing, agricultural machinery and chemicals. Manufactured goods account for 68 per cent of total foreign merchandise exports. Diversification has been relatively steady over time with no sector exceeding more than 13 per cent of total GDP.

Figure 2-2. Shares of Manitoba Gross Domestic Product, 2004



Source: Manitoba Bureau of Statistics

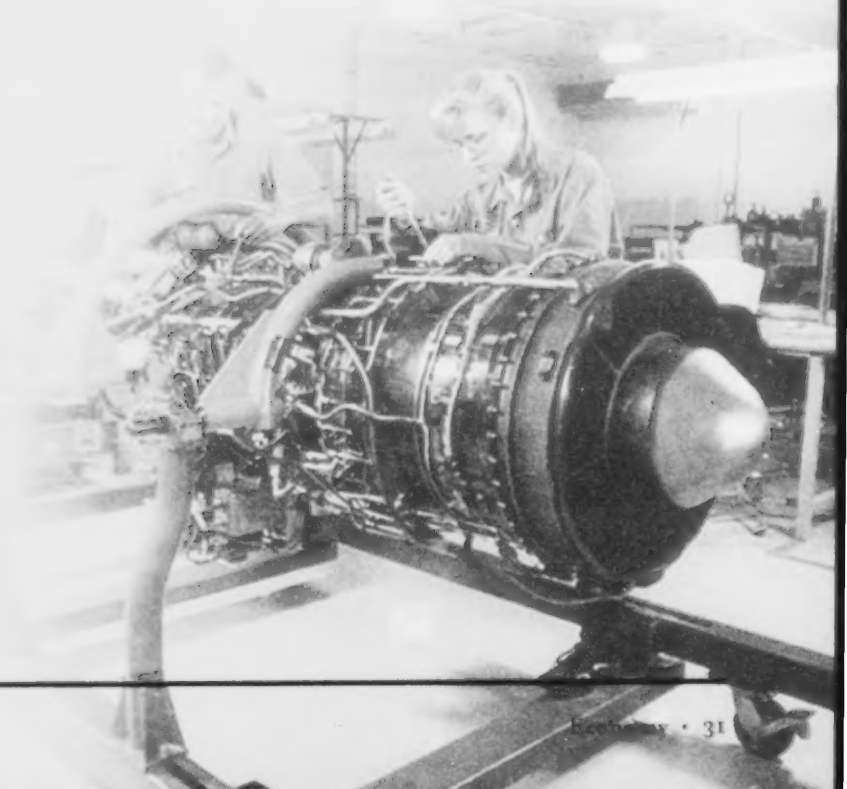
Implications for Sustainability

Recent trends suggest that Manitoba is maintaining its relative position within Canada in terms of economic well-being, as measured by GDP, and that continued positive growth is expected. Whether or not this growth is occurring in a sustainable manner will be revealed over time by Manitoba's performance in the various other sustainability indicators. One of the potential challenges of Manitoba's diversified economy is that skill shortages may occur and prove difficult to fill. One mitigating factor is that the provincial economy is comprised primarily of small businesses. This feature might enable skill shortage strategies, such as Aboriginal skill training and upgrading or targeted immigration, to have significant impacts with relatively small infusions of human resources in any one sector.

For More Information

More information on Manitoba's economy is available at:

- **www.gov.mb.ca/finance/reports/pdf/statistics.pdf** – Manitoba economic indicators;
- **www.gov.mb.ca/finance/reports/pdf/highlights.pdf** – Manitoba Economic Highlights;
- **www.gov.mb.ca/iedm/invest/busfacts/economy/index.html** – The Manitoba Economy 2004; and
- **www.gov.mb.ca/iedm/invest/busfacts/economy/ec_stats.html** – Manitoba Economic Statistics.



AGRICULTURAL VIABILITY

Why Is It Important?

Agriculture is embedded in the socioeconomic and ecological fabric of the province. Agriculture represents about three per cent of Manitoba's economy, employs over 30,000 people and covers 7.6 million hectares of the province's landscape. The viability of agriculture plays an important role in Manitoba's sustainability.

Indicators and Trends

The following key indicators reflect trends in the area of agricultural viability in Manitoba:

- **Total Net Farm Income** which is measured by net cash income minus depreciation plus income-in-kind and value of inventory change. This is based on the inputs and value of production related to the year that the agricultural goods were produced. It represents the return to owner's equity, unpaid labour, management and risk.
- **Farm Structure** which is measured by the number and size of farms and the type of organization.

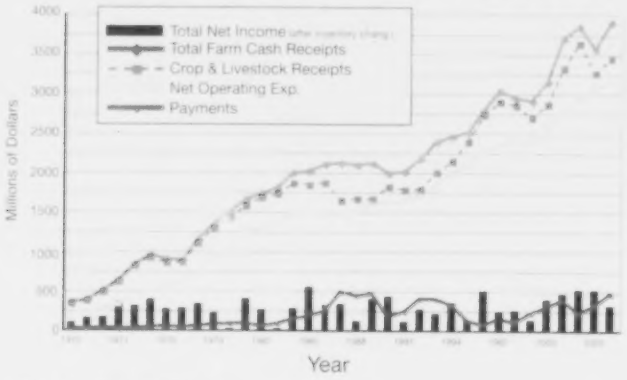
Total Net Farm Income

TREND – VARIABLE

Provincial net farm income has been somewhat variable; from a low of $227 million in 1999 to a high of $507 million in 2003. Net farm income for 2004 is projected to fall to $307 million. While market income can be extremely variable year-over-year due to market and climate factors, government program payments have contributed to the stability of the industry over the last 20 years. Without government payments, net farm income would show a more pronounced downward trend and be negative in several years. Figure 2-3 illustrates the sales and net incomes, as well as the program payments, from 1970 to 2003.

A trend to earn more income from off-farm sources is emerging as a result. This farm income situation has been aided partly by some opportunities to work in facilities that provide for value-added processing of agricultural products. This off-farm income response comes from the need to provide for a family income as farm operations deal with tight margins and low incomes in many sectors of the industry.

Figure 2-3. Manitoba Farm Cash Reciepts and Income Estimates/Forecasts, Gross and/or Net of Costs, 1970-2004



Source: Statistics Canada

Farm Structure

TREND – CONSOLIDATION INCREASING

Information relating to general farm structure is provided in Table 2-1. The number of farms in Manitoba has declined from approximately 35,000 farms in 1971 to 21,071 farms in 2001. Farm consolidation has resulted in the average size of a farm increasing from 220 hectares (543 acres) in 1971 to 361 hectares (891 acres) in 2001.

The increase in farm size can be attributed to a number of factors. Agricultural infrastructure has undergone numerous changes over the years, including the closure of railway branch lines and elevator branch lines. These changes and other reductions in rural services have forced producers to travel greater distances to deliver their production and purchase inputs leading to higher costs of production on the farm. To become economically feasible, producers needed to reduce the average cost of producing a commodity. To take advantage of economies of scale farms needed to operate on larger acreages.

Technological changes in machinery and equipment have also driven the change. First the advances in farm machinery and equipment reduced the labour requirements, allowing producers to farm vast tracts of land with virtually the same labour. The purchase of this farm machinery required an increasing amount of capital and fewer individuals were willing to take on debt necessary to farm on a larger scale. Large cash outlays for farm equipment increased specialization and operators began producing larger quantities of a limited number of products. As a result, fewer farms were needed to meet the demand for agricultural products and structural change took place. Structural change continues to take place today, in periods of low commodity prices, as those producers who are not economically viable sell the farm and leave the industry with land being purchased by those who have more capital.

Table 2-1. Manitoba Farm Structure

	1971	1976	1981	1986	1991	1996	2001
Farms and Finances							
Number of Census Farms	34,981	32,104	29,442	27,336	25,706	24,383	21,071
Average Size – Census Farms							
Hectares	220	240	259	283	300	317	361
Acres	543	593	639	700	743	784	891
Area Rented/Leased							
Hectares	2,001,124	2,199,689	2,518,269	2,866,798	2,866,674	2,803,402	2,854,731
Acres	4,944,953	5,435,550	6,222,788	7,088,953	7,083,706	6,927,357	7,054,197
Average Capital per Farm	$58,764	$141,253	$354,968	$349,525	$399,010	$518,213	$726,346
Type of Organization							
Sole Proprietorship	32,183	29,748	25,701	22,869	17,017	15,340	12,322
Partnership	2,094	973	2,653	3,229	7,075	6,847	6,394
Corporation							
Family	548	1,089	882	1,035	1,279	1,719	1,936
Other	67	165	85	81	207	372	356
Other	89	129	121	122	128	105	63

Source: Statistics Canada

The proportion of farmland rented or leased from others increased steadily from 1971 to 1986 and has since remained relatively constant. Farm organization has undergone a substantial shift towards partnerships and corporate structures some of which can be attributed to tax strategies for eventual farm succession.

With increasing longevity, improved health and technological advances in farm equipment, many older farmers can manage their operations into their senior years. This practice cannot continue forever though, and the Province of Manitoba has initiated programs to facilitate inter-generational farm transfers and to encourage younger people to enter the industry. Manitoba Agriculture, Food and Rural Initiatives, in conjunction with the Manitoba Agricultural Credit Corporation (MACC), have introduced the Succeeding Generations program initiative. This programming is aimed at the younger generation, and seeks to enhance the ability of young farmers to network and receive additional training to help them succeed in the agriculture industry.

Implications for Sustainability

Because of the strong reliance on exports, the success of Manitoba's agriculture and agri-food sector hinges on global forces of change. The sector is competing in a global marketplace, where success is defined by know-how and technology, agro-climatic variables (i.e., heat units, frost free days, rainfall), as well as subsidies and market access. In addition, the sector faces increasingly sophisticated value chains. Consumer preferences in Canada and abroad and, as the BSE crisis underlines, food safety are increasingly important in making decisions about what, where and how to produce and sell. Environmental responsibility is becoming an increasing priority for the industry. Overall stability of the sector also masks the economic hardships faced by small farms that continue to pursue a commodity production system.

Government has undertaken many initiatives over the years to provide for agricultural sustainability and producers have responded through active participation and cooperation. The partnership between the province and Agri-Food Canada to implement the Agriculture Policy Framework sets the stage for continued innovation and adaptation to ensure sustainable development.

For More Information

- More information on agricultural viability is available at: **www.gov.mb.ca/agriculture/index.shtml**

MINING

Why Is It Important?

Mining and mineral products are indispensable in our daily lives and their contributions to our material well-being and comfort are often overlooked in public discussions of sustainability issues. Mineral resources are non-renewable and Manitobans use minerals in many forms and combinations and incorporate them into a wide range of products. In fact, mineral products underpin our society's well-being. For example, nickel, copper and zinc are all produced in Manitoba mines and are essential in the manufacturing of motor vehicles, buses, airplanes, industrial equipment, home appliances, recreational products and health care equipment. Petroleum is used in manufacturing a variety of plastic products and farm and garden fertilizers. Petroleum also fuels cars, heats homes and drives industry. Manitobans use construction materials, such as sand, gravel, limestone, gypsum to build homes, roads, railway lines and sewer and water infrastructure.

Mining is also a vital component of the economy. It provides significant employment opportunities and tax revenue to help pay for important health and social programs. It is the second leading primary resource sector after agriculture. Much of Manitoba's mineral product is exported and significantly contributes to the province's merchandising export.

Indicators and Trends

The following key indicators reflect trends in the area of mining in Manitoba:

- **Mineral exploration** which is a reflection of the future of the mining industry, which needs active and healthy investment levels for mining exploration to replace existing reserves.
- **Mineral reserves** which is the quantity of "proven" or "probable" reserves at a producing mine reflecting the anticipated life of the mine.
- **Mining production** which is a reflection of the economic contribution that the sector makes to Manitoba's gross domestic product.

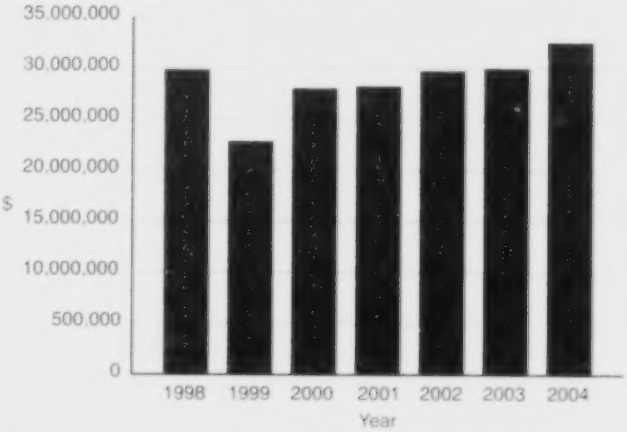
Mineral Exploration

TREND – STABLE

Mineral exploration and subsequent development are the future of the metal mining industry. In order to sustain the mining industry over the long term, new economically viable mineral deposits must be discovered and put into production. Mineral exploration is a financially high-risk venture typically based on past and current mineral exploration activities within a favourable geological setting. It is a lengthy and expensive process.

In Manitoba, mineral exploration has been reasonably stable and it is anticipated that the type and level of exploration will remain consistent over the foreseeable future.

Figure 2-4. Mineral Exploration and Deposit Appraisal Expenditure in Manitoba 1998 – 2004



Source: Manitoba Industry, Trade and Mines (1998-2000); Natural Resources Canada (2001-2004)

Mineral exploration expenditures represent all field activities including capital, repair and maintenance expenditure carried out (on or off mine sites) to search for, discover and carry out the first delineation of a previously unknown mineral deposit to establish its potential economic value.

Mineral Reserves

TREND – NEGATIVE

Estimates of Manitoba mineral reserves come from Natural Resources Canada. The ore reserves are estimates from information contained in annual and other corporate reports, and from responses of mining companies to the annual Federal-Provincial Survey of Mines and Concentrators. Reserves reported only include metal contained in material that is classified by mining companies as "proven" or "probable" at producing mines, and in deposits that are committed to production.

Table 2-2. Manitoba Reserves of Metals (in tonnes)

Metal	1999	2000	2001	2002
Copper	509	485	417	115
Nickel	1025	949	893	802
Lead	0	5	4	3
Zinc	893	1122	958	401
Silver	579	615	528	100
Gold	79	65	46	10

Source: Natural Resources Canada

The sustainability concept recognizes that mineral resources are non-renewable and that new economically viable deposits must be continually discovered and put into production to sustain the economic and social benefits that the industry generates. For example, the mining industry has prospered in the Flin Flon mining district for over 75 years through the continual discovery of new mines. The long-term trend is towards depletion where the newly discovered reserves are not keeping up with those that are mined.

Manitoba has worked very diligently to enhance the business climate for mining activity. By maintaining exploration levels, it is anticipated that new reserves will be discovered to offset the negative trend.

Mineral Production

TREND – STABLE

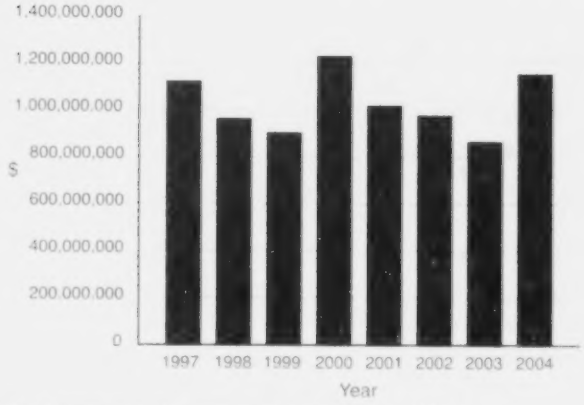
Mining, milling, smelting and refining industries are major contributors to the Manitoba economy, providing raw materials, exports and employment opportunities. Mining can dominate local economies and, in fact, the viability of some northern communities is highly dependent on mining.

Mining activity provides 3.2 per cent of provincial Gross Domestic Product and provides direct employment for 3,700 people and indirect employment for 13,000 people.

Implications for Sustainability

The mining sector is a cornerstone of the provincial economy and is integral to job creation and community development, particularly in northern Manitoba. To maintain a healthy northern economy and provide community stability, the ongoing success of the mining industry is critically important. Canadians and Manitobans

Figure 2-5. Total Value of Mineral Production – 1997 – 2004



Note: Mineral production represents the total value of Manitoba's mineral production as measured by Natural Resources Canada.

Source: Manitoba Industry, Economic Development and Mines

enjoy a high standard of living, which is dependent, in part, upon our ability to export goods and services internationally. The mining industry in Manitoba produces significant wealth, averaging approximately $1 billion annually, and also contributes to the balance of payments at about 11.2 per cent of provincial exports. The success of the mining sector helps enhance long-term economic and social benefits provincially.

Sustainability within the mining sector requires that Manitoba and the mining industry use minerals and other natural resources to support our economic, social and environmental well-being in a manner that does not damage or diminish prospects for future generations. Manitobans need to ensure that mineral exploration, development and extraction, and the products derived from these activities are able to maintain and improve our living standards, while allowing future Manitobans to live equally well, or better, in a cleaner environment.

Protection of the environment is an important aspect of mineral exploration and community economic development. Through the Sustainable Development Innovations Fund, $2 million was provided between 2001 and 2005 to ensure that public safety at five abandoned mine sites is maintained and to ensure these sites are managed so that they pose a minimal risk to the surrounding ecosystem.

For More Information

- More information on mining in Manitoba is available at: **www.gov.mb.iedm/mrd/index.html**

ENERGY EFFICIENCY AND CONSERVATION

Why Is It important?

Being efficient and thoughtful about how we use energy, and taking responsibility for any adverse impacts is vital to the sustainability of Manitoba. Improved energy efficiency in all sectors clearly results in significant reductions in the consumption of imported, non-renewable fuels, such as refined petroleum products and natural gas. A reduction in energy consumption also impacts on air-borne pollution and greenhouse gas emissions.

Indicators and Trends

The following key indicators reflect trends in the area of energy efficiency and conservation in Manitoba:

- **Energy Intensity** which is measured by the ratio of energy consumed to real gross domestic product (GDP).
- **Renewable Energy Consumed versus Total Energy Consumed** which is expressed as a percentage.

Energy Intensity

TREND – POSITIVE

Energy intensity is defined as the ratio of energy consumed to Real GDP. A decrease in energy intensity can indicate improvements in energy efficiency. Figure 2-6 shows that Manitoba experienced a 17 per cent reduction in energy intensity over the five-year period from 1996 to 2001 and a 30 per cent overall reduction from 1982 to 2001. Energy intensity has stabilized from 2001 to 2003.

Figure 2-6. Manitoba Energy Intensity

Source: Manitoba Energy, Science and Technology

Several major factors may have played a role in this decline in energy intensity:

- consumers in the residential and commercial sectors switching from refined petroleum products and natural gas liquids to electrical energy (refined petroleum products and natural gas liquids are less efficient for space heating than electrical heat);
- displacement of natural gas with electrical energy in the industrial sector;
- energy-efficiency improvements in the residential and commercial sectors through improved technology, better insulation and better building envelopes (the components, such as vapour barriers, that separate heated space from unheated space, the exterior air and the ground);
- improved processing efficiencies in the industrial sector; and
- general warming contributing to reduced energy requirements.

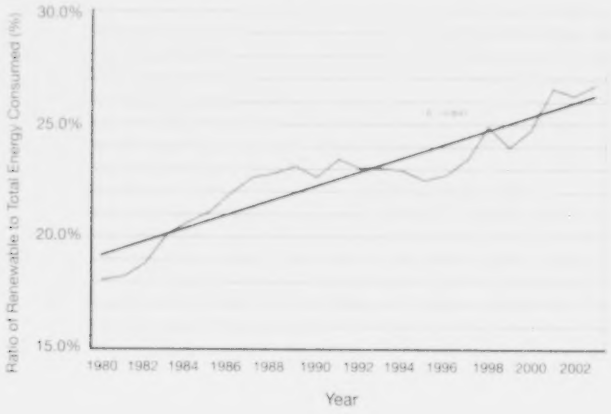
Renewable Energy Consumed versus Total Energy Consumed

TREND – POSITIVE

The ratio of renewable energy to total energy consumed in Manitoba increased from 18 per cent in 1980 to 27 per cent in 2003 as demonstrated in Figure 2-7. Improvements in energy efficiency and consumers switching from non-renewable sources, such as refined petroleum products, to renewable hydroelectricity, contributed to an increase in the ratio of renewable to total energy consumption from 1980 to 2003. The ratio will continue to increase through the implementation of new and sustainable initiatives, such as wind farms, increased use of ground source heat pumps and biodiesel fuel sources.

Renewable energy sources include hydroelectricity, geothermal, biomass, solar and wind energy. Hydroelectricity accounts for 99.5 per cent of the renewable energy that is consumed in Manitoba. Another currently available source of renewable energy is ethanol. The Husky Minnedosa Ethanol Plant annually produces 10 million litres of ethanol from wheat. Approximately nine million litres is consumed in gasohol, which is a 10 per cent ethanol to 90 per cent gasoline blend. Ethanol currently accounts for 0.5 per cent of the renewable energy that is consumed in Manitoba. Other renewable energy sources, such as wind and solar power, currently contribute a negligible share in Manitoba. Manitoba's first wind farm is currently under construction in St. Leon, in the southwestern part of the province. The 99-megawatt farm will include 61 wind turbines and will be fully operational by the fall of 2005.

Figure 2-7. Renewable Energy Consumed Versus Total Energy Consumed In Manitoba



Source: Manitoba Energy, Science and Technology

Implications for Sustainability

The abundance of hydroelectricity in Manitoba provides many benefits for sustainable development. First, it is a clean source of energy that is helping our country minimize its greenhouse gas emissions which contribute to global warming – a global sustainability issue with implications for virtually every aspect of our economy, society and environment. Second, it helps our economy by providing an inexpensive source of energy. Finally, being a renewable energy source, it helps contribute to the long-term security of our energy supply. Integrating additional types of home grown sources of renewable electricity, such as wind, solar and geothermal power, will complement our hydroelectricity sources and contribute considerably to the sustainability of our electricity supply.

Electricity production and consumption represents only a part of our overall energy picture. Refined petroleum products and natural gas are still the dominant fuels in Manitoba. Our transportation sector, which accounts for almost a third of all energy consumed in Manitoba, is 99 per cent run on refined petroleum products. Hydrogen fuel-cell and hybrid fuel technology may contribute to the transportation industry's transition to greater sustainability.

For More Information

- More information on energy efficiency and conservation is available at: **www.gov.mb.ca/est/energy**
- Information on Manitoba Hydro is available at: **www.hydro.mb.ca/**

CONSUMPTION AND WASTE MANAGEMENT

Why Is It Important?

The earth's ability to sustain human development and assimilate its impacts is limited. Not only may the impacts of some forms of waste know no boundaries, the associated costs are also passed on to future generations. The legacy of more waste includes increased health risk and cost to society and higher potential for environmental degradation. It also leads to economic loss by failing to recognize that waste from one form of economic activity may be a useful input to another. A comprehensive and effective system for waste management is a basic component of a sustainable society.

Indicators and Trends

The following key indicators reflect trends in the area of consumption and waste management in Manitoba:

- **Waste Disposal** which is measured by tonnes of solid waste disposed of in landfills, which represents materials taken out of the production and consumption cycle.
- **Waste Recycled or Reused** which is measured by recovery in tonnes of residential waste materials.

Waste Disposal

TREND – POSITIVE

Waste disposed in Manitoba declined by 0.022 tonnes per capita from 0.798 tonnes per capita in 2000 to 0.776 tonnes per capita in 2002 (Table 2-3). While this is a positive trend, Manitoba was ranked sixth of nine provinces in waste disposed per capita in 2002, above the national average.

Waste Recycled or Reused

TREND – POSITIVE

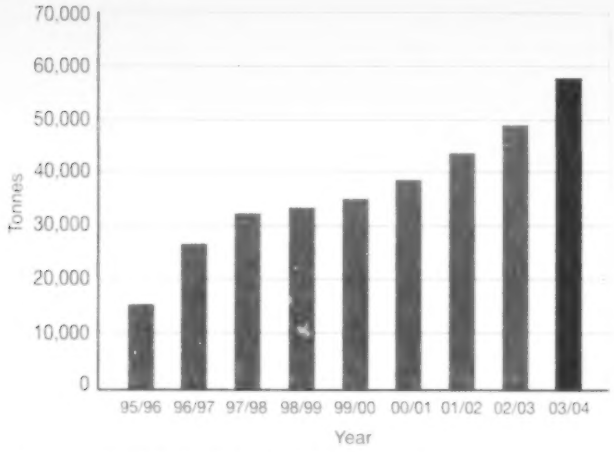
Recovery of residential waste materials in Manitoba has increased from approximately 16,000 tonnes in 1995 to over 57,000 tonnes in 2003 (Figure 2-8). Of the 88,425 tonnes of materials eligible for recycling in 2003, 57,723 tonnes were recycled, representing a recovery rate of 65 per cent. This is a positive trend in relation to overall waste generation. When all other non-hazardous wastes are considered, Manitoba's overall diversion was 22 per cent in 2002, up from 19 per cent in 2000.

Table 2-3. Annual Waste Disposed by Province in Tonnes

PROVINCE	WASTE DISPOSED (TONNES)		WASTE DISPOSED PER CAPITA (TONNES PER CAPITA)		
	2000	2002	2000	2002	Rank
Newfoundland and Labrador	398,818	376,818	0.742	0.725	4
Prince Edward Island	n/a	n/a	n/a	n/a	-
Nova Scotia	391,827	389,194	0.416	0.417	1
New Brunswick	415,058	413,606	0.550	0.551	2
Quebec	5,806,200	5,543,800	0.787	0.745	5
Ontario	8,931,600	9,645,633	0.764	0.797	7
Manitoba	**914,511**	**896,556**	**0.798**	**0.776**	**6**
Saskatchewan	821,946	795,124	0.804	0.799	8
Alberta	2,750,004	2,890,294	0.914	0.928	9
British Columbia	2,581,336	2,744,901	0.636	0.667	3
Yukon, Northwest Territories, Nunavut	n/a	n/a	n/a	n/a	-
CANADA	23,168,870	23,835,730	0.753	0.760	-

Source: Statistics Canada

Figure 2-8. Recovery of Residential Materials in Metric Tonnes



Source: Manitoba Product Stewardship Corporation

Nearly 95 per cent of Manitobans have access to multi-material recycling, which has continued to increase since the Manitoba Product Stewardship Corporation (MPSC) was established in 1995. MPSC works in partnership with local governments to improve recycling systems through support payments, education programs and technical assistance.

Current waste management mechanisms and initiatives promoting sustainability include a two-cent distributor-paid levy, excluding deposit (beer) containers, which is placed on all non-dairy beverage containers to fund local government multi-material recycling. A five- or 10-cent Environment Protection Tax is applied to liquor beverage containers to support environmental projects. A seven per cent provincial sales tax (PST) applied to disposable diapers also supports environmental projects. The province has completed consultations on a draft Household Hazardous Waste Regulation and released guidelines for construction and demolition waste management.

To improve waste reduction and recycling systems, three product stewardship regulations have been established under *The Waste Reduction and Prevention Act* (1990). These regulations establish authorities that are accountable to the Minister of Conservation for achieving specific waste reduction goals and to operate transparently to the public and stakeholders. The Manitoba Product Stewardship Corporation, Tire Stewardship Board and Manitoba Association for Resource Recovery Corporation spent approximately $13 million in 2003 on multi-material, tire- and oil-recycling programs.

Implications for Sustainability

Economic progress in Manitoba has typically translated into increasing consumption of material goods. However, progress founded on the growth of material consumption usually means more waste. One of the key challenges of sustainable development is de-linking the two. Although there are signs of progress, there continues to be potential for less waste in production and consumption. A greater emphasis on awareness, participation and education on waste reduction is required.

Sustainability concerning waste production will require that Manitobans reduce the amount of waste sent to landfills by 50 per cent of 1988 levels, as established by the Canadian Council of Ministers of the Environment. This will require continued support for municipal governments to manage solid waste through innovation and partnerships with the public and private sector. Meeting this, and possibly more ambitious future targets, would also require looking at waste production from a broader perspective. Besides recycling and reducing waste production, nurturing a culture of material reuse has an important role. As the participation of households in recycling and programs reaches high levels, products and services will need to be designed with waste minimization in mind. This will need to include more widespread product stewardship and engineering product life cycles from production through use to recovery.

For More Information

- More consumption and waste management information is available at: **www.gov.mb.ca/conservation/pollutionprevention/**

EMPLOYMENT

Why Is It Important?

Employment indicators reflect both the rate at which individuals seek work and the rate at which employers hire workers to produce goods, develop resources and provide services. These indicators show the balance between supply and demand in the labour market. Because the total level of employment is simply the number of people with jobs, the rate of population growth can encourage or limit growth in the level of employment.

Indicators and Trends

The following key indicators reflect trends in the area of employment in Manitoba:

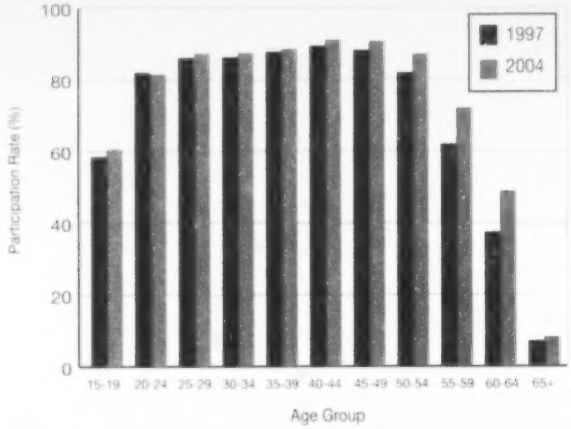
- **Labour Force Trends** which is measured by labour force participation rates, employment rates and unemployment rates.
- **Labour Force Opportunities** which is measured by number of employment training clients and number of job vacancies.

Labour Force Trends

TREND – POSITIVE

Labour Force Participation Rates – The labour force participation rate measures the percentage of the population that is either working or actively looking for work. It is also an indicator of the abundance of jobs, because people may be drawn into the labour market when there is a good chance of finding a job. Over the past number of years, Manitoba's labour force participation rate has increased, rising from 66.5 per cent in 1997 to 69.0 per cent in 2004. The age groups with the largest increases were 55 to 59, and 60 to 64 years. Although the participation rate of men continues to be higher than that of women, the participation rate of women is increasing faster than the participation rate of men. Manitoba's overall participation rate has been the second highest among the provinces throughout this period.

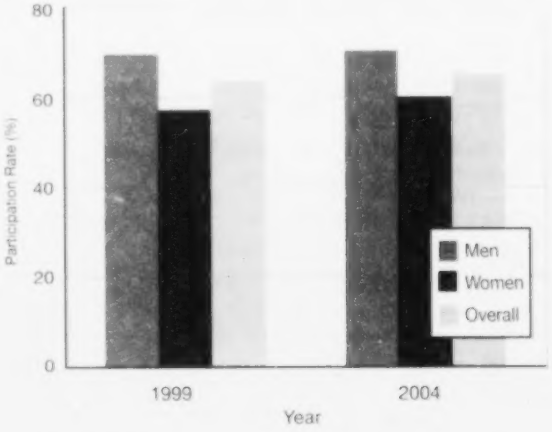
Figure 2-9. Manitoba Labour Force Participation Rates by Age (1997 and 2004)



Source: Statistics Canada Labour Force Survey

Employment Rates – The employment rate represents the percentage of Manitobans aged 15 years and over who have paid employment or are self-employed. Over the past five years, Manitoba's employed workforce has increased by 6.7 per cent (from 540,000 in 1999 to 576,000 in 2004). The employment rate increased from 63.5 per cent in 1999 to 65.4 per cent in 2004. A higher proportion of men are employed, compared to women, but the difference is decreasing over time.

Figure 2-10. Employment Rates by Gender (1999 and 2004)



Source: Statistics Canada Labour Force Survey

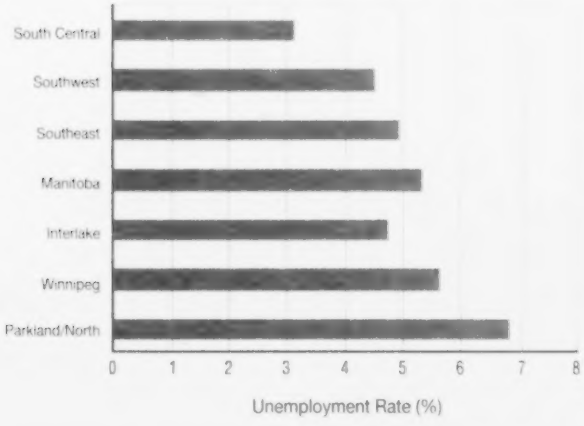
Over the past five years, increasing numbers of women have been shifting from part-time to full-time work, especially at younger ages. In 2004, four out of every five jobs were classified as full time. About 78 per cent of those who work part time are doing so voluntarily.

Aboriginal people in Manitoba have increased their labour force participation rate and employment rate. Between 1996 and 2001, their participation in the labour force grew from 54 per cent to 59 per cent, while the proportion employed increased from 40 per cent to 48 per cent.

Unemployment Rates – Unemployment rates are an indicator of the opportunity for employment in the economy and the relative economic well-being of individuals. They can also be used as a measure of availability of labour for the expansion of industry.

Manitoba's unemployment rates continued to remain quite low when compared to other Canadian provinces, decreasing from 5.7 per cent in 1999 to 5.3 per cent in 2004. In 2004, the unemployment rate was 5.6 per cent in Winnipeg, and 3.1 per cent in the South Central region. The North Central, Interlake, Southeast and Southwest regions had unemployment rates between 4.5 per cent and 4.9 per cent. The highest regional unemployment rate was in the Parkland region and the North (combined economic regions for the purposes of the Labour Force Survey) at 6.8 per cent.

Figure 2-11. Unemployment Rates by Region (2004)



Source: Statistics Canada Labour Force Survey

Aboriginal unemployment rates remained much higher than the provincial average of 6.1 per cent in 2001. From 1996 to 2001, the Aboriginal population benefited from economic development in northern communities, on reserves and in urban areas. However, as employment opportunities rose, more Aboriginal people began to participate in the labour force by looking for work and, as a result, the unemployment rate remained high. The government is promoting economic development, skills training and employment opportunities in northern communities through the Northern Development Strategy, and is partnering with First Nations to develop and promote eco-tourism.

Labour Force Opportunities

TREND – POSITIVE

Employment and Training Services – Manitoba Advanced Education and Training (AET) provides a variety of services for adults to access employment, skills improvement and career development. In 1998, a province-wide service-delivery network was established with the creation of 16 provincial Employment Centres. Between 2001/02 and 2003/04, over 40,000 clients have been served annually.

Job Vacancies – The Manitoba Job Bank maintains a count of open job positions that employers are seeking to fill. Over the past four years, the number of job orders in the bank has increased steadily. In 2001/02, the Job Bank averaged 1,509 job orders per month, while in 2004/05 the average was approximately 1,900 orders per month, as reported by Human Resources Development Canada, for a total of 22,829 orders.

In 2002, legislation was enacted to help the continued development and operation of Adult Learning Centres (ALCs) across the province. Adults attending Manitoba's ALCs are earning high school credits to prepare for post-secondary studies and enhance their employment opportunities.

Implications for Sustainability

The positive trends in Manitoba's labour force participation, employment rates and unemployment rates, along with labour force opportunities, are contributing to the strength of Manitoba's economy. Creation of training and employment opportunities across Manitoba is crucial to sustaining economic and social growth. Across government departments, a large variety of coordinated initiatives are conducted to address community needs. The government's Action Strategy for Economic Growth, Innovation Strategy and Northern Development Strategy are a few examples. Support for major long-term projects, such as hydro development, is another approach that provides current and future employment opportunities for Aboriginal people and northern residents. Continued priorities for government include working with employers to reduce under-employment and working with professional licensing groups to recognize foreign credentials.

The increase in labour participation for those aged 60 to 64 is interesting to note. The implications of this will require further analysis.

For More Information

- More information on employment is available at:
  www.gov.mb.ca/labour/
  www.edu.gov.mb.ca/aet/ets2/about.html
  www.edu.gov.mb.ca/aet/jobseek/lmi.html

EDUCATION

Why Is It Important?

For Manitoba to be competitive in the global economy, its citizens must be highly educated and trained. Instilling a strong learning foundation during children's formative years and providing accessible life-long learning opportunities for youth and adults is essential for the province's future well-being and economic prosperity.

Indicators and Trends

The following key indicators reflect trends in the area of education in Manitoba:

- **Readiness for School** which is measured by the Early Development Instrument (EDI) in Kindergarten and reading and numeracy assessments in Grade 3.
- **Literacy** which is measured by youth and adult international assessments.
- **High School and Post-Secondary Education** which is measured by high school graduation rates and post-secondary completions.

Readiness for School

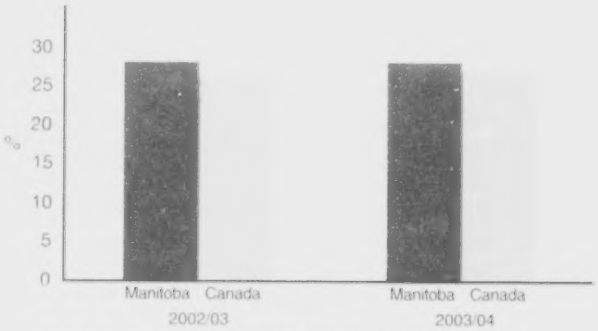
TREND – NOT YET ESTABLISHED

School entry is an important transition point where individual differences in what children know and can do are predicative of longer-term self-concept development, learning and achievement. Over the past number of years, Manitoba school divisions have introduced a variety of local and provincially supported initiatives to assess children's readiness for school both prior to and upon their arrival at school. The Government of Manitoba allocates over $6 million annually for school divisions to work with communities to provide early literacy intervention programs with special emphasis on reading and numeracy.

The Early Development Instrument (EDI) is being phased in province-wide on a voluntary basis in Manitoba school divisions. It will measure the success of communities in early childhood development prior to school entry and predict children's learning success in later grades. The EDI provides a snapshot of children's readiness for school in five areas of development: physical health and well-being; social competency; emotional maturity; language and cognitive development; and communication skills and general knowledge.

During the first year of provincial implementation in 2002/03, 24 of 38 school divisions (representing about 8,000 kindergarten students) completed the EDI. It is hoped that, by 2006/07, all Manitoba school divisions will be implementing the EDI on an ongoing basis. This will help monitor the effectiveness of Manitoba's investments in early childhood development. Based on preliminary EDI data collected to date, the overall school readiness of Manitoba's children is generally comparable to Canadian norms, with about 28 per cent of children not ready to learn when starting school. These children are found in families across the socioeconomic spectrum, but most (55 per cent) live in middle- and higher-income families. Both universal and targeted approaches are needed to help improve our children's school readiness.

Figure 2-12. Early Development Instrument (EDI): Percentage of Children "Not Ready to Learn at School Entry" In One or More Areas of Development, age 5, Manitoba and Canada



Source: Healthy Child Manitoba Office and Offord Centre for Child Studies

Annually, since 2001, a classroom-based Grade 3 reading and numeracy assessment has found that the majority of Manitoba students have successfully mastered all reading competencies and most numeracy competencies expected at this stage of their schooling.

Literacy

TREND – STABLE

Youth Literacy – In spring 2000 and 2003, Manitoba students aged 15 years participated, as part of Canada's sample, in the Organization for Economic Cooperation and Development (OECD) Program for International Student Assessment (PISA) in reading, mathematics, and science. In both assessments, Canadian students performed exceptionally well compared to students in other participating countries (total of 32 countries in 2000 and 41 countries in 2003). Canadian students ranked second in reading and third in mathematics for both 2000 and 2003, while in science they ranked fourth in 2000 and fifth in 2003. In both the 2000 and 2003 assessments, Manitoba students performed at the Canadian average in all three domains, placing them among students from the top-ranked countries of the world.

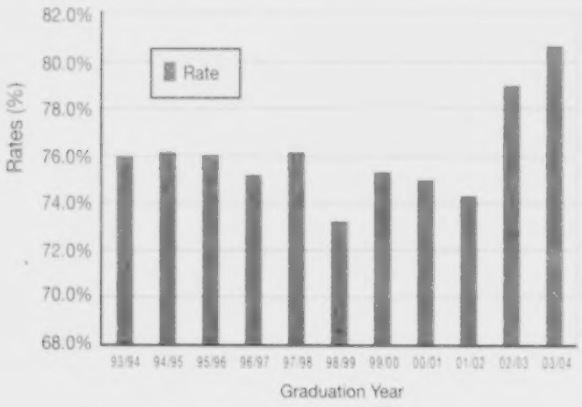
Adult Literacy – In 1994 and 2003, Canada participated with six other countries in an International Adult Literacy Survey (IALS), which assessed literacy skills of adults aged 16 to 65. The assessment evaluated the ability to read prose and documents and manipulate numbers. In the 1994 survey, Canada's results were in the middle range of countries surveyed (behind Sweden and the Netherlands, but significantly ahead of the United States and Poland). Overall, the 1994 survey found that literacy levels decreased as age increased. Comparative information will become available late in 2005 with the international release of the 2003 survey findings, followed in the fall of 2005 with Canadian reports.

High School and Post-Secondary Education Completion

TREND – HIGH SCHOOL INCREASING; UNIVERSITY/COLLEGE STABLE

High School Graduation Rates – Over the past decade, 12,000 - 14,000 students graduated annually from Manitoba high schools (public, independent and band-operated), with the overall annual graduation rate increasing from 75.9 per cent in 1994 to 80.7 per cent in 2004. An increasing number of graduates come from Adult Learning Centres. Higher proportions of female students than male students consistently graduate each year.

Figure 2-13. High School Graduation Rates

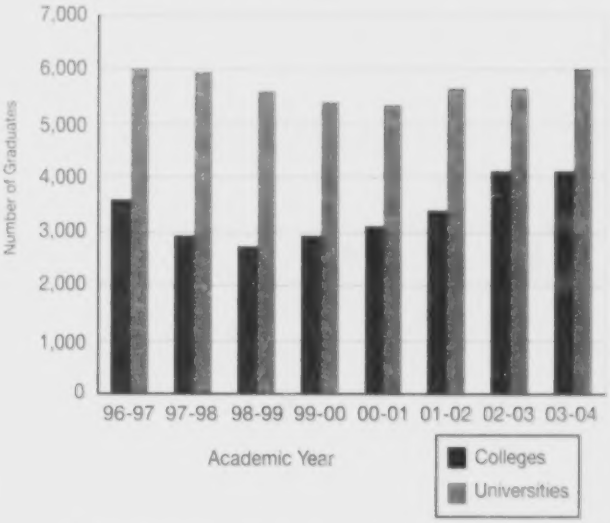


Source: Manitoba Education, Citizenship and Youth

In recent years, many new school-based initiatives have been introduced to encourage students to stay in school (e.g., dual-credit options with universities and colleges, processes to challenge courses for credit and introduction of a new technical-vocational initiative) and return to school (e.g., expansion of Adult Learning Centres and access to prior learning assessments).

Post-secondary Education Completion – Every year, 30 to 35 per cent of Manitoba high school graduates go directly into post-secondary full-time study. Many more students enrol in part-time study or wait a number of years before enrolling in a university or college. On average, Manitoba's four public universities graduate between 5,000 and 6,000 students annually, while its four public colleges graduate between 3,000 and 4,000 students. In recent years, the number of diplomas/certificates awarded by colleges and degrees/diplomas awarded by universities has been steadily increasing. Approximately 90 per cent of university degrees/diplomas are at the undergraduate/professional level.

Figure 2-14. Manitoba College and University Graduate Counts (1996/97 to 2003/04)



College Graduates – includes day programs and full-time programs at regional centres and apprenticeship

University Graduates – includes regular and summer sessions

Source: Council on Post-Secondary Education

Implications for Sustainability

As there is a direct correlation between the highest level of education attained and a person's health, employment level and income, Manitoba's education systems are vital to the social and economic sustainability of our province. Indicators of education in Manitoba show positive signs. Children's readiness programs are providing stronger learning foundations during the formative years. Youth literacy in Manitoba is among the best in the world, high

school graduation rates are growing and more than 10,000 Manitobans completed post-secondary education in 2003/04. Baseline data suggest that the overall school readiness of Manitoba's children is generally comparable to Canadian norms. Investing in early childhood development provides the best chance for better preparing our youngest children for school and improving the overall quality of Manitoba's future population of youth and adult learners, workers, parents and citizens.

To promote future economic growth for Manitoba, efforts are being made to further increase the number of students who complete high school, participate in post-secondary education and ultimately graduate with university and/or college credentials.

For More Information

- More information on education is available at:
  www.gov.mb.ca/healthychild
  www.edu.gov.mb.ca/

CONCLUSION – ECONOMY

Based on Gross Domestic Product, Manitoba is holding its relative position within Canada with respect to economic progress. A trend of continued positive growth is expected. This trend contributes to the positive trends seen in employment rates and labour force opportunities in Manitoba. However, economic progress in Manitoba has typically translated into increased consumption of material goods and this usually means more material waste. With recycling rates reaching high levels in Manitoba, society will begin looking more to industry to design products and services with waste minimization in mind.

With respect to education, youth literacy in Manitoba is among the best in the world and our children's readiness to learn is comparable to Canadian norms.

Successes in Manitoba's agriculture and agri-food sector hinges on local and global forces of change – as the BSE crisis highlighted. The average size of a farm in Manitoba has increased over the years and there has been a shift toward partnership and corporate organization. Implications of this shift to economic, social and environmental aspects of sustainability will need to be monitored and studied in the years to come.

Sustainable development in Manitoba benefits considerably from an abundance of hydroelectricity. It provides energy security because of its renewable nature and it helps our economy by providing an inexpensive source of energy. Hydroelectricity is a clean source of energy that is helping Manitoba and Canada minimize their greenhouse gas emissions and meet global commitments toward mitigating climate change.

CHAPTER THREE

SOCIAL WELL-BEING

Sustainability is not just a matter of maintaining the physical environment for future generations, nor is economic well-being by itself enough to ensure a healthy society. To help complete our understanding of sustainable development in Manitoba, we must complement our knowledge of the economic and environmental dimensions by measuring progress in social well-being.

Categories presented in the social well-being dimension are:

- Demographics
- Equity and rights
- Community and culture
- Governance
- Health
- Justice

DEMOGRAPHICS

Why Is It Important?

Population trends for Manitoba provide important signals for economic, social and environmentally sustainable development and, therefore, understanding them can be helpful in understanding other issues in this report.

Indicators and Trends

The following key indicators reflect trends in Manitoba's demographics:

- **Population Growth** which includes the growth of Manitoba's Aboriginal population.
- **Migration to Manitoba from Other Jurisdictions** which is measured by the number of people migrating to Manitoba, while accounting for those leaving the province.

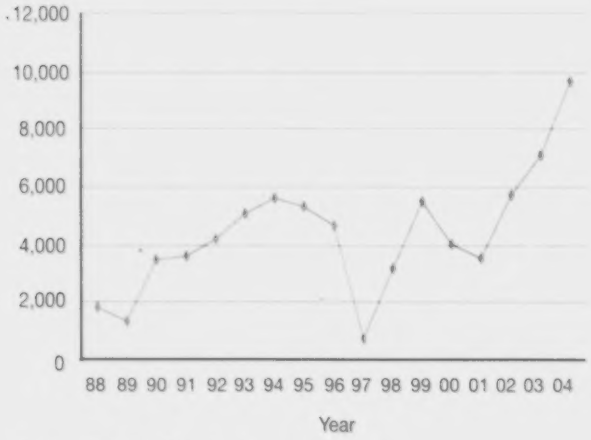
Population Growth

TREND – POSITIVE

Manitoba's total population was estimated at 1,174,645 persons as of January 1, 2005, an increase of approximately 9,700 since January 1, 2004. Over the last three years, Manitoba's population growth has been steadily increasing (Figure 3-1).

Manitoba's annual growth rate as of January 1, 2005 was 0.83 per cent, the best since 1985 and just under national growth of 0.91 per cent. It was also fourth best among the provinces, only Alberta, British Columbia and Ontario recorded stronger growth.

Figure 3-1. Manitoba Annual Population Growth: January 1, 1988 to January 1, 2005



Source: Statistics Canada

In the 2001 Census, 150,045 persons in Manitoba identified themselves as Aboriginal, representing 13.6 per cent of the province's population. Of Manitoba's total Aboriginal population in 2001, 97,980 persons lived off reserve while 52,065 lived on reserve. Among those living off reserve, 52,415 lived in Winnipeg and Headingley, and accounted for 34.9 per cent of Manitoba's total Aboriginal population. The combined Aboriginal populations of Brandon, Thompson and Portage la Prairie totalled 10,570 or 7.1 per cent of Manitoba's total Aboriginal population.

Compared to Manitoba's population as a whole, the Aboriginal population is younger. The share of the Aboriginal population that is less than 15 years old is 36 per cent; this compares to 18.9 per cent of the non-Aboriginal population. Nearly one in four Manitobans under the age of 15 is of Aboriginal descent. On the other hand, the percentage of Manitoba's Aboriginal population that is 65 and older is 3.7 per cent, which is well under the 14.6 per cent share of the non-Aboriginal population.

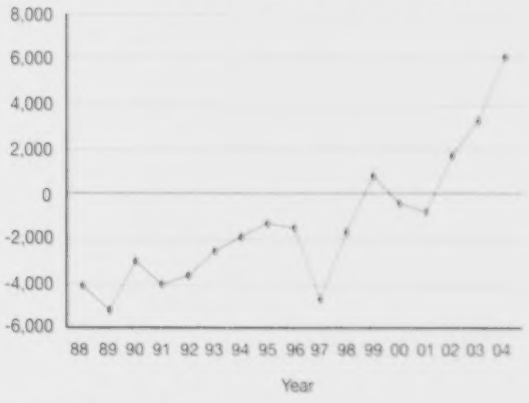
Migration to Manitoba from Other Jurisdictions

TREND – POSITIVE

In 2004, total net migration was almost double the number in 2003. From January 1, 2004 to January 1, 2005, Manitoba recorded a net gain of 6,025 persons due to all forms of migration. This compares to an estimated gain of 3,245 persons in 2003. The 6,025 gain is the largest inflow in at least 33 years. Figure 3-2 illustrates that, in the last three years, more people came to Manitoba than left.

Net international migration reached 6,132 persons in 2004, the highest level since the 1980s. In 2004, the total number of immigrants to Manitoba was 7,414, also the highest level since 1980 when the total number of immigrants was 7,713.

Figure 3-2. Total Net Migration: 1988 to 2004



Source: Statistics Canada

Implications for Sustainability

These demographic and population trends provide an important context for understanding sustainable development in Manitoba. If the current demographic trend continues, Manitoba can expect to average annual population growth of 0.8 per cent to 2017. This growth would be mainly driven by international migration which would result in a proportionately younger population and higher fertility rates. As a consequence, births will continue to outnumber deaths and the natural increase will also contribute to population growth. This tells us that maintaining or increasing population levels in Manitoba will depend on our ability to attract citizens from other countries and Canadians from other provinces, as well as keep Manitobans in Manitoba.

For More Information

- More information on Manitoba's population trends is available at: **www.statcan.ca**

  Information on Manitoba's Aboriginal population trends is available at: **www.gov.mb.ca/ana/population.html**

EQUITY AND RIGHTS

Why Is It Important?

The equality of all people is basic to the concept of sustainable development. The level of income available to a person or family directly affects the material standard of living they are able to enjoy. The ability to provide the necessities of life and have access to opportunities offered by society is also vital.

Indicators and Trends

The following key indicators reflect trends in the area of equity and rights in Manitoba:

- **Low Income** which is measured by Statistics Canada After-Tax Low Income Cut-off (LICO-IAT), which states that a family has a low income if it spends more than 64 per cent of its after-tax (and transfer) income on the basic necessities.
- **Income Inequality** which is measured by the Gini index, which ranges in value from 0 to 100. A score of '0' indicates everyone has the same level of income (complete equality) while a score of '100' indicates that one person has all of the income (complete inequality).
- **Income Dependency** which is measured by the degree of reliance on government transfers for financial support, as a per cent of total income.
- **Community Supported Living** which is measured by the number of people with mental disabilities in community supported living residences.

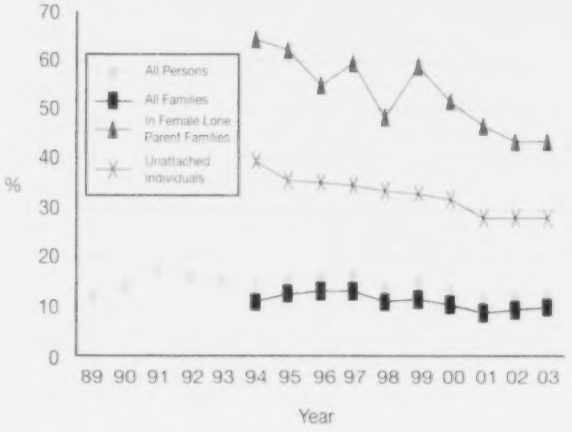
Low Income

TREND – POSITIVE

Figure 3-3 shows trends in Manitoba's After-Tax Low Income Cut-Off (LICO-IAT) from 1989 to 2003. The percentage of individuals with incomes below the LICO-IAT was lowest in 1989 at 12.4 per cent, rose to a peak of 17.4 per cent in 1991 and has since shown gradual improvement. Manitoba's LICO-IAT percentage stood at 12.4 per cent in 2003, 0.9 percentage points higher than the provincial/territorial average of 11.5 per cent. A key reason for the increase in the rate of low-income after 1989 was the decline in market incomes between 1989 and 1996. Only after 1996, when average market incomes rose more substantially, did the rate of low- income begin to fall. The Statistics Canada report, *Income in Canada, 2003*, revealed that Manitoba had the second highest percentage of persons living below the LICO-IAT.

Figure 3-3 also shows that the rate of low income dropped the most for those most likely to experience it – those living in female lone-parent families and those living alone or with non-family persons. Between 1994 and 2003, the rate of low income fell by 32 per cent (from 64.6 to 43.7 percentage points) for persons in female lone-parent families. For unattached individuals, it fell by 29 per cent (from 39.9 to 28.3 percentage points). By comparison, it fell by only 12 per cent for those living in all economic families (from 11.0 to 9.7 percentage points).

Figure 3-3. Manitoba's After-Tax Low-Income Cut-Off
Per cent of Persons in Low Income



Source: Statistics Canada

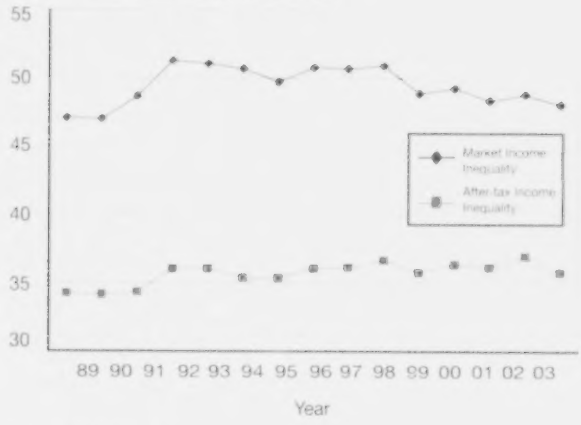
Income Inequality

TREND – NEGATIVE

As illustrated in Figure 3-4, income inequality in Manitoba has slightly worsened since 1989. The after-tax income Gini index was lowest in 1990 at 34.2, rose to a peak of 36.7 in 1998 and again to 37.0 in 2002, falling to 35.8 in 2003.

The slight increase in the degree of after-tax income inequality can be traced to two trends. One is the change in the distribution of market incomes (from earnings, pensions and investment income). The other is the change in the distribution of taxes and federal and provincial transfer payments, which reduce the overall degree of inequality. Between 1989 and 1998, the level of inequality in market incomes rose and remained high, largely accounting for the much smaller increase in the inequality in after-tax incomes. However, since 1998, the inequality of market incomes has dropped by two percentage points while the inequality in after-tax incomes has stayed about the same, dropping only in 2003. This would indicate that the distribution of taxes and transfers has become less equal over the same time period. Nonetheless, in 2003, Manitoba had the second lowest level of after-tax income inequality, after Prince Edward Island, in Canada.

Figure 3-4. Gini Index Manitoba



Source: Statistics Canada

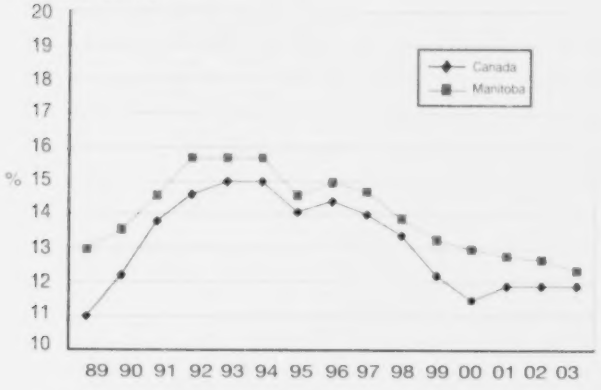
Through a number of initiatives, Manitoba is working to reduce the depth, incidence and effects of low income and to further the social economic and labour market inclusion of all citizens.

Income Dependency

TREND – POSITIVE

Government transfers can be an effective way to reduce the degree of low income and income inequality in society. Transfers include all direct payments from federal, provincial and municipal governments. Figure 3-5 shows the rates of dependency on government transfers for all economic family units in Manitoba between 1989 and 2003. Government transfers, as a percentage of total family income in Manitoba, rose from 13.0 per cent in 1989 to a high of 15.7 per cent in 1994 and have since declined to 12.4 per cent in 2003. The same trend occurred for all of Canada, with slightly lower dependency on transfers than in Manitoba.

Figure 3-5. Government Transfers as a Percentage of Total Income



Source: Statistics Canada

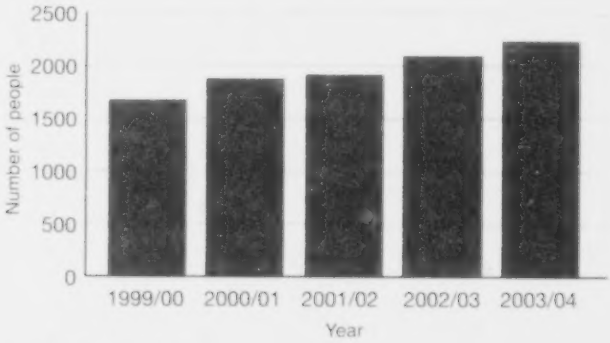
Reliance on government transfers and the state of the economy are related for working-age individuals and families. As income from employment decreases due to economic downturns, transfer payments are provided to the unemployed, mainly through Employment Insurance and income assistance.

Community Supported Living

TREND – POSITIVE

Community living for persons living with a mental disability has been a priority. Between 1999/00 and 2003/04 the number of residents in developmental centres has declined by 16 per cent, while the number of people in community supported living residences has increased by 33 per cent.

Figure 3-6. Number of People Supported in Community Living Residences



Source: Statistics Canada

Implications for Sustainability

Recent trends suggest that Manitoba is maintaining its relative position within Canada in terms of economic well-being. Income distribution in Manitoba, an important indicator of equity, was the second most equal in the country in 2003.

For More Information

- More information on income in Manitoba is available at: **www.gov.mb.ca/fs/**
- More information on services for persons with disabilities is available at: **www.gov.mb.ca/fs/pwd**
- The document, *Full Citizenship: A Manitoba Provincial Strategy on Disability*, is available at: **www.gov.mb.ca/access/**

COMMUNITY AND CULTURE

Why Is It Important?

Manitoba has a growing and vibrant cultural diversity that enhances community life. Languages and traditions, whether old or new to our social landscape, are central to cultural growth and development, and are fundamental to a healthy and productive community. Sharing and sustaining heritage and culture provides opportunities for understanding and fellowship. A strong link with the past provides a path for future directions. Remembering, embracing and sharing traditions and spiritual values help people to connect with and maintain their culture.

Indicators and Trends

The following key indicators reflect trends in the area of community and culture in Manitoba:

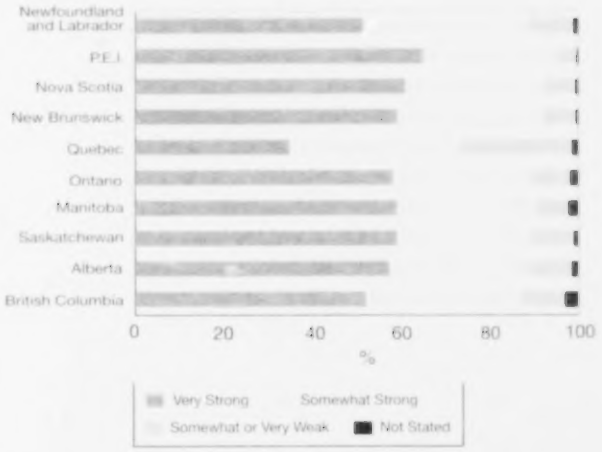
- **Community Engagement** which is measured through a sense of belonging, of being involved in community organizations, and through charitable donations.
- **Heritage Conservation** which is measured by the number of heritage sites.
- **Primary Language Spoken at Home** which is measured by the retention of people's mother tongue.

Community Engagement

TREND – NOT YET ESTABLISHED

Sense of Belonging – Manitobans show a very high level of connectedness to their communities. According to Statistics Canada, Manitoba has the fourth highest percentage (91 per cent) of individuals who described their sense of belonging to Canada as very or somewhat strong (Figure 3-7).

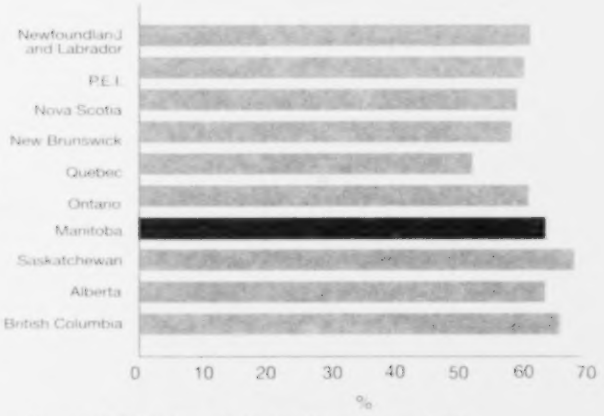
Figure 3-7. Sense of Belonging



Source: Statistics Canada, General Social Survey, 2003

Involvement in Community Organizations – Manitoba has the third highest percentage (64.6 per cent) of individuals reporting that they were involved in at least one organization, a strong indicator of commitment and involvement in local communities (Figure 3-8).

Figure 3-8. Percentage of Individuals Who are Involved in at Least One Organization, by Province, Canada, 2003

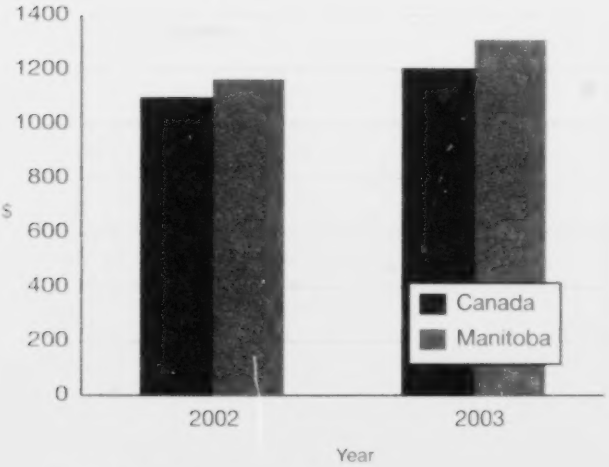


Source: Statistics Canada, General Social Survey, 2003

Charitable Donations – More Manitobans give to charities than the national average and their average gift is also more than the national average. Income tax data for 2003 indicates that the average deduction claimed by Manitobans for charitable donations was $1,308.51, higher than the national average of $1,204.21. The average donation by Manitobans increased by 12.52 per cent between 2002 and 2003, compared with a national increase of 9.75 per cent.

A little over 28 per cent of Manitobans claimed a deduction for a charitable contribution, compared to the national average of 24.56 per cent in 2003. Interestingly, the 2000 National Survey of Giving, Volunteering and Participating (Statistics Canada) reports a higher donor rate, noting that only 45 per cent of all respondents indicated they, or someone else in their household, intended to claim a tax credit for charitable donations they had made; this suggests the 2003 data may understate the extent of charitable giving. Indeed, the 2000 study showed that 84 per cent of all Manitobans made a financial donation to at least one charitable organization, an increase from 81 per cent in 1997. In both cases, giving by Manitobans was higher than the national average of 78 per cent. The study also found that donors are more likely than non-donors to volunteer and belong to an organization and the likelihood increases with the amount given.

Figure 3-9. Average amount of donation by Canadians and Manitobans 2002 and 2003



Source: Canada Revenue Agency

Heritage Conservation

TREND – POSITIVE

Manitoba's built and natural heritage and its network of museums and heritage organizations, embody the province's diverse and complex heritage. Cultural sites, museums and signature community events are major attractions for visitors to Manitoba and, in turn, enhance and sustain community gathering places. Historic places provide tangible economic, environmental and social benefits and contribute to the identity and social cohesion of Canada. They connect us to the past, to our future and to each other.

Table 3-1. Number of Heritage Sites Designated (Cumulative)

YEAR	DESIGNATED PROVINCIAL HERITAGE SITES	MUNICIPAL HERITAGE SITES	CITY OF WINNIPEG BUILDING CONSERVATION
1990/91	27	44	151
1992/93	70	82	161
1994/95	98	116	173
1996/97	98	140	173
1998/99	106	177	193
2000/01	109	213	201
2002/03	115	244	210
2004/05	118	266	217

Source: Manitoba Culture, Heritage and Tourism

The number of heritage sites protected by the Province of Manitoba, local governments and The City of Winnipeg has increased from 222 in 1991 to 601 in 2005. The designation of heritage sites continues at a steady pace with approximately 20 new sites designated each year at present.

Primary Language Spoken at Home

TREND – UNCLEAR

Manitoba has a diversity of languages that reflect the evolving ethnic flavour of the province (Table 3-2). Cities and communities are witness to the evolution of the province's ethnic fabric and the part which language plays in community and culture.

Table 3-2. Primary Language Spoken at Home

MOTHER TONGUE (INCLUDING MORE THAN ONE RESPONSE)	1996 CENSUS	PER CENT OF TOTAL POPULATION	2001 CENSUS	PER CENT OF TOTAL POPULATION
English	831,490	75.6 per cent	839,765	76.1 per cent
French	50,575	4.6 per cent	47,560	4.3 per cent
German	65,295	5.9 per cent	63,215	5.7 per cent
Ukrainian	30,505	2.8 per cent	26,540	2.4 per cent
Tagalog (Filipino)	15,230	1.4 per cent	18,385	1.7 per cent
Cree	23,620	2.1 per cent	18,110	1.6 per cent
Other	83,580	7.6 per cent	90,125	8.2 per cent

Source: Statistics Canada

A critical component of Winnipeg's population profile and Winnipeg's future is linked to its Aboriginal population. Winnipeg has one of the highest percentages of Aboriginal people in Canada and they speak about seven Aboriginal languages.

Language is not the only indicator of preservation of culture and heritage. A more precise picture of an evolving social identity includes other related cultural institutions, such as dance, stories, books, plays, activities, religious affiliations and related organizations.

Implications for Sustainability

In many ways, community and culture represent the fabric of sustainable development. Our communities interact directly with the environment and members of the community, along with the culture they create, participate in all aspects of Manitoba's economy. Manitoba's quality of life is strengthened by the commitment of the provincial government to the cultural sector. In 2002/03, Manitoba's per capita expenditure of $93 per person on culture was the second best in Canada and significantly higher than the national average of $67 per person.

Manitoba also benefits from the growth of its community foundations. According to The Winnipeg Foundation, in 2003, foundations in Manitoba had the highest per capita assets of $260.66 compared with the national per capita rate of $52.21. Between 1998 and 2003, foundation assets in Manitoba increased by 94 per cent and grants increased by 142 per cent.

The Aboriginal and immigrant populations are the fastest growing in Manitoba and will have the most impact within the province over the next twenty years. For example, in rural Manitoba, over one quarter of youth is Aboriginal. Many Aboriginal people are leaving reserves and moving to Winnipeg and other communities to find employment and education. The retention of language and culture is, therefore, an issue for both groups into the future.

For More Information

- More information on Manitoba's culture and heritage is available at: **www.gov.mb.ca/chc/** and **www.gov.mb.ca/labour/**

GOVERNANCE

Why Is It Important?

Under the Constitution, provincial and local governments have sole or shared responsibility for governance in numerous key areas relevant to sustainability: natural resources and the natural environment; agriculture; business, labour and the economy; human health; and education. Accordingly, effective governance can have a positive impact upon sustainability at both the local and the international levels. A key component of governance is the ability of the citizens to take part in decision-making through the representative democratic system. Voter turnout is one indicator of the level of participation in our political community.

Indicators and Trends

The following key indicators reflect trends in the area of governance in Manitoba:

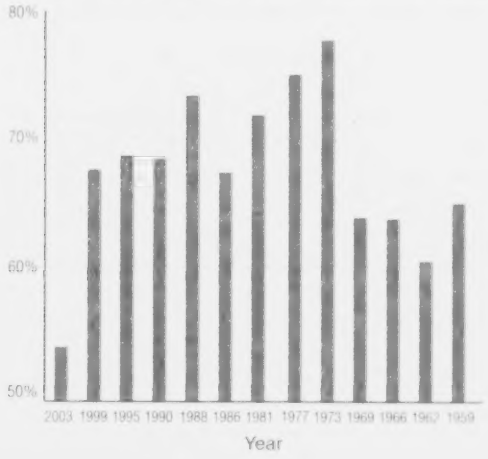
- **Voting Rates** which is a proxy for opportunities for participation and redress.
- **Progress Toward Debt Repayment** which is a proxy for fiscal accountability.

Voting Rates

TREND – NEGATIVE

Voter turnout for all electoral divisions in Manitoba since 1959 is shown in Figure 3-10. Voter turnout in Manitoba has been declining steadily since 1988, as it has in most provinces and at the federal level. Over the period, the highest voter turnout was 78 per cent in the 1973 election. The 2003 voter turnout of 54 per cent is the lowest voter turnout since 1962. By comparison, voter turnout for parliamentary elections in Canada has ranged from a high of 81 per cent in 1958 to the lowest national voter turnout in 2000 of 61 per cent.

Figure 3-10. Provincial Voter Participation Rate



Source: Government of Manitoba with data obtained from Elections Manitoba

An Elections Manitoba survey determined voter turnout, based on samples of 400 voters and 400 non-voters for the 2003 provincial election. The results suggest reasons for non-voting generally fall into two broad categories: those who did not want to vote for whatever reason; and those who intended to vote but were distracted by lack of time, illness or travel. The number of electors who reported they were uninterested in the election or did not know enough to vote grew dramatically in 2003. A common primary or secondary reason for not voting was the perception that whether they voted or not, the outcome had already been determined well before Election Day. About four out of ten non-voters cited this reason. When the election process began, most non-voters intended to vote. Most decided not to vote partway through, or on the day of the election. Many made the decision after they thought the outcome was clear. In the 2003 election, it appears the dramatic decrease in the voting rate was circumstantial. The complete results of the survey may be accessed on the Elections Manitoba website at:
www.electionsmanitoba.ca/default.htm

Progress Toward Debt Repayment

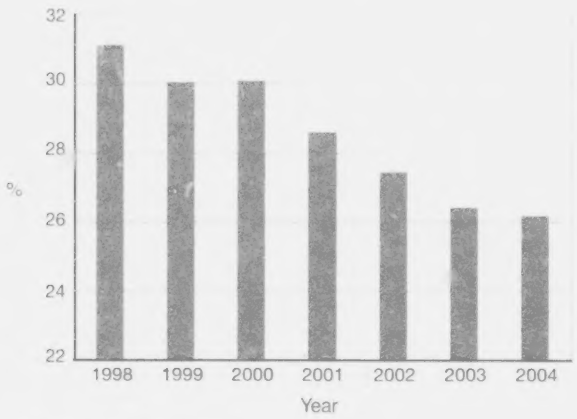
TREND – POSITIVE

Fiscal sustainability is a key determinant of the government's ability to continue funding government programs, including those that have a profound effect on quality of life, environmental protection and health of the population.

The Balanced Budget, Debt Repayment and Taxpayer Protection Act (known informally as balanced budget legislation, or BBL) was made law in 1995. It requires the government to make orderly repayments of debt while maintaining a positive balance in its Operating Fund, the account into which revenues are deposited and from which expenditures are drawn. Since 1995/96, Manitoba has delivered balanced budgets in the context of provincial legislative requirements. An escalating minimum amount for debt repayment must be set aside yearly in the Debt Retirement Fund (DRF); the fund can be collapsed at any time, and no later than every fifth year, to repay debt. Since 1999, Manitoba has transferred a total of $594 million to the Debt Retirement Fund to pay down general purpose debt and pension liabilities. Payments were boosted from $96 million in 2004/05 to $110 million in 2005/06.

A simple indicator of a province's capability to service the debt is the debt-to-Gross Domestic Product (GDP) ratio, set out in the following chart for Manitoba, Figure 3-11.

Figure 3-11. Debt to Gross Domestic Product Ratio



Source: Manitoba Finance

Debt-to-GDP ratios are useful in gauging a government's capacity to service debt. If a province's GDP is increasing, then size of the tax base is increasing. Amid a steadily growing economy, Manitoba's ability to service its debt increased from 1999 to 2004 as the debt-to-GDP ratio fell from 31.2 per cent to 26.2 per cent during that time. Manitoba ranks fifth best among provinces for lowest debt-to-GDP ratio among two different measures of debt. The Dominion Bond Rating Service, a credit rating agency, and Statistics Canada create their own measures of net debt for inter-provincial comparisons.

Implications for Sustainability

Public participation in democratic governance is critical for sustainability – the law alone cannot enforce the common interest. Sustainability will also be based on community knowledge and support. Participation in democratic elections is one good indicator of such knowledge and support. The apparent trend of declining voter turnout in Manitoba is concerning. Increased effort to improve voter turnout will be needed to help ensure the sustainability of complex future development decisions.

Trends in fiscal responsibility have implications for all aspects of sustainable development. Manitoba's legislated commitment to a balanced budget and to long-term debt repayment is a signal to future generations that they have indeed been factored into the development equation in this province.

For More Information

- More information on governance in Manitoba is available at: **www.electionsmanitoba.ca/default.htm** and **www.gov.mb.ca/finance/index.html**

HEALTH

Why Is It Important?

The World Health Organization has affirmed that health – as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity – is a fundamental human right, and the attainment of the highest level of health is a most important world-wide social goal.

The health of a population is affected by social, environmental and economic determinants, including: employment/working conditions; education; income/socioeconomic status; healthy child development; personal health practices and coping skills; physical environment; social support network; biology and genetic endowment; and health services.

The ongoing attainment of the optimal level of health and well-being must be supported through sustaining resources for the health of future generations.

Indicators and Trends

The following key indicators have been selected to reflect trends in the area of health in Manitoba:

- **Health Status** which is reflected here through two measures – Ability to Function and Potential Years of Life Lost.
- **Access and Quality of Care** which may be measured in part by the quality and availability of health care services available to Manitobans.

Health Status

TREND – NOT YET ESTABLISHED

Ability to Function – Ability to Function measures the overall functional health of the population based on nine dimensions of functioning – vision, hearing, speech, mobility, dexterity, feelings, cognition, memory and pain.

In 2003, a Statistics Canada survey reported that 18 per cent of Manitobans over the age of 12 indicated either moderate or severe functional health problems. Females reported slightly higher rates of moderate to severe functional health problems than males. Compared to other provinces, Manitoba ranks in the middle nationwide.

Manitoba is addressing these dimensions of functioning in part through a range of strategies to promote healthy living, including: healthier eating; increase in physical activity levels; reduction of preventable injuries; reduction in the use of tobacco and other dangerous substances; improved sexual health; a mental health renewal strategy; and reduction in the rates of chronic disease.

Potential Years of Life Lost (PYLL) – Potential Years of Life Lost measures the years of life lost before age 75 in a population due to premature death. Males have a higher overall rate of potential years of life lost than females, although the rate over time (1992 to 2001) has remained constant for both sexes.

The potential years of life lost by specific cause of death for Manitobans as a whole are ranked below in order of greatest number of years of potential life lost:

1. Unintentional injuries
2. Lung cancer
3. Suicide
4. Heart attack
5. Stroke

For women, breast cancer is the second leading cause of PYLL, followed closely by lung cancer. Rates for breast cancer have remained relatively constant since 1979.

Some other trends in the rates of PYLL are noteworthy. Unintentional injuries among males have decreased, stabilizing in 1998. Between 1979 and 1999, the rates of PYLL due to lung cancer among males decreased, while the trend among females was in the opposite direction, with smoking as the major cause.

Suicide rates have declined since 1979, but rates among women have remained stable. First Nations Manitobans are two times more likely than non-First Nations Manitobans to die by suicide.

Rates of PYLL due to heart attack among men and women declined between 1979 and 1999 due to improved drugs and medical care for heart attack patients, reduced smoking rates among men and greater control of hypertension. While genetic factors play a role, other risk factors for heart disease include unhealthy diet, obesity, inactivity and diabetes. These risk factors are increasing in the Manitoba population and are described on the Healthy Living website at: **www.gov.mb.ca/healthyliving/index.html**

Access and Quality of Care

TREND – NOT YET ESTABLISHED

One of the determinants of health is access to quality health services. Access to high quality health services is important in the prevention, early detection and treatment of illness. Key dimensions around quality and access include the appropriateness of the health services available, their effectiveness in maintaining/improving health, the efficiency with which they are delivered and the responsiveness of the health system to adapt to demands.

Patient Perceived Quality of Care – This measure reflects patients' overall perception of the quality of care received. It is subjective and differs from objective measures of clinical effectiveness and appropriateness.

In 2003, Statistics Canada conducted the Canadian Community Health Survey in provinces across Canada. Results of that survey showed the following for Manitoba:

- 85 per cent of Manitobans rated the quality of overall health care received to be "excellent" or "good" (80 per cent in 2000);
- 80 per cent of Manitobans rated the quality of tele-health services received to be "excellent" or "good" (data for 2000 unavailable);
- 92 per cent of Manitobans rated the quality of physician care received to be "excellent" or "good" (89 per cent in 2000); and
- 82 per cent of Manitobans rated the quality of hospital care received to be "excellent" or "good" (82 per cent in 2000).

The rates reported for men and women, and for Manitoba and Canada overall were similar.

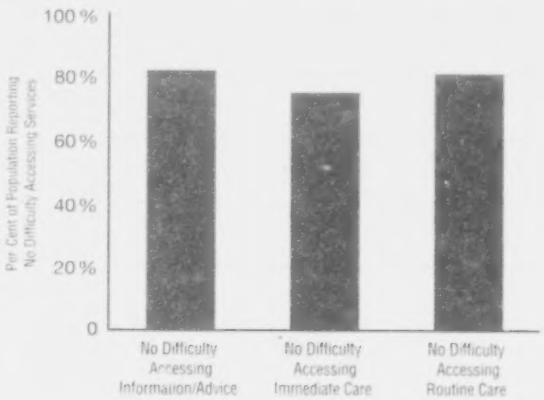
Per cent of Population Having Difficulty Obtaining Services – This is a measure of the public's perception of access to health services. In 2003, Statistics Canada conducted a Health Services Access Survey and asked Manitobans whether they experienced any difficulties accessing health services in the preceding 12 months.

The results of the Statistics Canada survey showed the following for Manitoba:

- 82 per cent of Manitobans reported having no difficulty accessing health information or advice;
- 75 per cent of Manitobans reported having no difficulty accessing immediate care; and
- 81 per cent of Manitobans reported having no difficulty accessing routine care.

The rates reported for Manitoba and Canada overall were similar. Trend data is not available for this indicator.

Figure 3-12. Age-Standardized Per cent of Population Reporting No Difficulty Accessing Services



Source: Statistics Canada

A number of strategies are being developed to improve access to services in Manitoba, to improve the quality of services and to reduce costs and inefficiencies in the system. The Manitoba Primary Health Care Policy Framework, for example, outlines the goals to address primary health care reform in the province (**www.gov.mb.ca/health/primaryhealth.html**). Additional strategies underway include the reconfiguration of rural health service delivery, a human resource strategy and a wait list reduction strategy.

Implications for Sustainability

Average data for the entire population of Manitoba does not show the important disparities between groups of people. However, analysis of the data by gender, Aboriginal status, income, other socioeconomic variables and geography (north-south, rural-urban), etc., can show some significant differences in health status, personal practices/coping skills, use of health services and other determinants of health.

The expenditures on health services in Manitoba account for 42 per cent of the provincial budget. The largest proportion of the costs for health services are hospitalization costs, physician's salaries and pharmaceutical drugs. Research has shown that, while access to key effective services is important to health status, there are many determinants of health, of which health services is just one.

Questions for sustainability are whether the amount and mix of services are appropriate, and how to achieve a better balance between prevention and care to improve health and reduce disparities. Reducing or delaying the onset of illness can impact on service delivery costs. With the aging of society and the increasing proportion of the Aboriginal population, increased pressure is anticipated on the health system. Reducing disability and illness will be key to sustaining the health system and a productive society.

For More Information

More information on health is available at:

- Manitoba's Comparable Health Indicators Report – **www.gov.mb.ca/health/pirc/1.pdf**
- Manitoba Health – **www.gov.mb.ca/health/**
- Manitoba Healthy Living – **www.gov.mb.ca/healthyliving/index.html**
- The Manitoba Primary Health Care Policy Framework – **www.gov.mb.ca/health/primaryhealth.html**
- Manitoba Centre for Health Policy – **www.umanitoba.ca/centres/mchp/**
- Canadian Institute for Health Information – **www.cihi.ca**
- Statistics Canada – **www.statcan.ca**

JUSTICE

Why Is It Important?

The law and the justice system are important to Manitobans because they provide order in society, a peaceful way to settle disputes and a means of expressing the values and beliefs of our province and country. The justice system deals with a broad range of criminal, constitutional, and administrative laws. It also provides processes to resolve private disputes fairly and without violence in matters such as contracts, property ownership, family rights and obligations, and damages to property.

Despite the importance of the justice system in supporting the social well-being of Manitobans, it is very difficult to adequately measure its effectiveness because of the complexity of our laws, the number of independent stakeholders in the system, the need for fairness and due process and the extremely wide variety of individual matters and personal situations that the system must handle.

Indicators and Trends

The following key indicator reflects trends in justice:

- **Crime Rate** which is measured by the number of crimes recorded by police agencies in Manitoba. The crime rate is reflective of activity in the criminal justice system. It does not encompass other justice activities and services.

Crime Rate

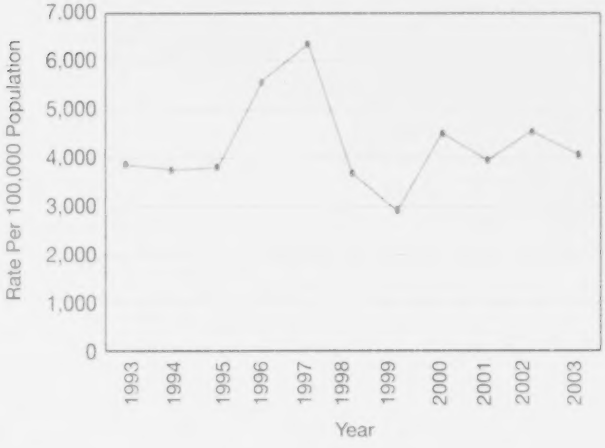
TREND – VARIABLE

Justice statistics are gathered and published annually by the Canadian Centre for Justice Statistics (CCJS), an agency of Statistics Canada. One of the most common indicators referred to in connection with the justice system is the crime rate, which demonstrates the number and types of criminal incidents that are reported to, and then officially recorded by police forces in various parts of Canada.

It is best to think of the crime rate as only a general indicator of criminal activity. For instance, a higher rate of a certain type of crime may not necessarily mean that type of activity is more common in a certain area. It may indicate that the justice system in that area is doing a better job of identifying, reporting and dealing with those kinds of incidents.

Manitoba's violent crime rate has been fluctuating over the last 10 years. In 2003, Manitoba's total violent crime rate decreased slightly (-1 per cent). This rate is slightly lower (-1 per cent) than the average rate over the previous 10 years and is six per cent lower than the rate in 1997, which was the highest rate in the past 10 years (Figure 3-13).

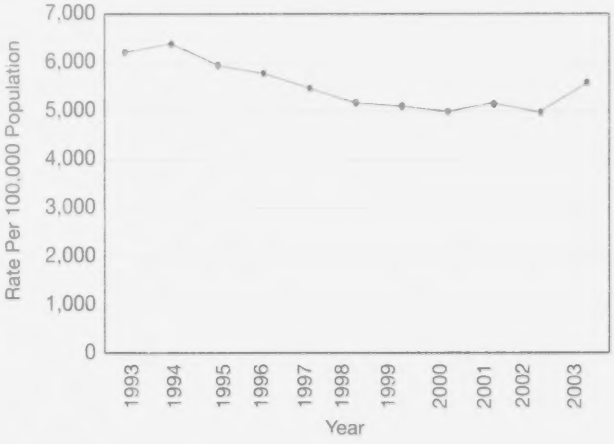
Figure 3-13. Manitoba Total Violent Crime Rates 1993-2003



Source: Canadian Centre for Justice Statistics and Manitoba Justice

In 2003, Manitoba's property crime rate increased (+12 per cent) after having followed a general trend of decreases since 1995, but was still 12 per cent lower than the 1994 rate, which was the highest rate within the previous 10 years (Figure 3-14). The majority of the increase in Manitoba's property crimes (71 per cent) was due to an increase in theft under $5,000, which may be partly due to a new telephone reporting system in Winnipeg that makes it easier to report those offences.

Figure 3-14. Manitoba Total Property Crime Rates 1993-2003



Source: Canadian Centre for Justice Statistics and Manitoba Justice

Implications for Sustainability

Manitoba Justice supports a variety of crime prevention and community justice programs, and helps to fund police forces in the province (although policing in larger centres is a municipal responsibility). Consultation and special supports are provided to victims of more serious crimes. To help reduce future re-involvement in criminal activity, Manitoba's correctional system provides sentenced offenders with counselling, education, vocational training and appropriate remedial programs. While all these efforts are important, they cannot on their own prevent a crime from occurring.

It is generally accepted that a wide range of individual, family, community and societal factors influence potential criminal behaviour. Simple indicators, such as crime rates, may point to problems, but they cannot prescribe solutions.

In recognition of these challenges, in June of 2003, the Justice Information Council agreed on the need to move in a significant new direction. The council has endorsed gathering and analyzing a broad spectrum of national data on individual, family and community/societal factors, and justice and partner system interventions, to determine their effect on offending and recidivism, quality of life, skill development/employment, parenting skills and economic growth. It is expected that this broader approach will improve the national capacity to address key policy questions and will support research-based policy development in the future.

For More Information

- More information on the justice system in Manitoba is available at: **www.gov.mb.ca/justice/index.html**
- Crime rate statistics are published yearly by Statistics Canada and can be accessed at: **www.statcan.ca**

CONCLUSION – SOCIAL WELL-BEING

Manitobans are generally healthy, yet certain segments of the population have higher risk factors for adverse health effects. Rates of diabetes, for example, have increased in recent years. In addition, Statistics Canada reports that about 14 per cent of Manitoba's population identifies as having a disability. Manitoba benefited from a growth in its population last year as total net migration to the province reached its highest level in modern times.

Manitoba has the benefit of enjoying the second most equal distribution of income in the country, a fact that bodes well for sustainable development. Manitoba has among the highest percentage of low-income families compared to other provinces.

While we enjoy being among the most free and democratic nations, Manitoba and Canada are experiencing a decline in voter turnout – a concerning trend given the importance of *public participation and community knowledge in* moving toward a more sustainable future.

The positive aspects of our social well-being will help attract Canadians from other provinces and citizens from other countries to live in Manitoba and, of critical importance, will provide reasons for young Manitobans to stay in Manitoba.

CHAPTER FOUR

THE BIG PICTURE

Is Manitoba progressing toward a sustainable society? Finding the answer to this is not a simple task, even based on the indicators presented in this report. While the results indicate there are some negative trends that need to be addressed in order to improve Manitoba's performance, there are certainly many positive trends that show hope for the future and point to the need for continued effort on behalf of all Manitobans to ensure we continue to create a more sustainable province. This report will help build a foundation for developing a sustainable Manitoba. Better performance in some areas may balance out poorer performance in others. But, based on all of this information, can we really see the "big picture"? Aggregating indicators is a way to provide a more complete, but simpler picture of complicated issues. A specific tool using aggregated indices to present a picture of sustainability for Manitoba is presented in this section – the Ecological Footprint.

The Ecological Footprint

The ecological footprint (EF) is an **index of the sustainability** of our lifestyle. Our lifestyle and activities need an ecosystem to support them. Our activities can be expressed in the amount of productive land it takes to produce the inputs required and assimilate the wastes. The EF of a given activity of the population is expressed as **the total hectares of productive land** that is 'consumed' to support that activity based on prevailing technology. The EF, compared to the total available productive land of the given area – **bioproductivity**, indicates the sustainability of the lifestyle.

The EF is globally the most widely used single sustainability measure. It describes the distance from and progress toward a sustainable lifestyle, while providing sufficient detail on the impact of various activities.

The EF calculation comprises six major bioproductive areas, namely: arable land; pasture; forest; fishing grounds; fossil energy land; and built land. It considers the human demand on each of these land types wherever they are located.

The **arable land** component includes the area Manitoba needs to produce all the crops (cereals, oil crops, fruits and vegetables, roots and tubers, pulses, tea, coffee, sugar, tobacco, cotton) that Manitobans consume, and the area for all the crops grown for feeding animals whose meat, milk or eggs are consumed in Manitoba (but excludes meat from free-ranging animals).

The **pasture land** component includes the area that relates to Manitoba's consumption of meat, dairy products, hides and wool obtained from free-ranging livestock occupying permanent pastures (i.e., livestock that are not crop-fed or not in feedlots).

Forest land represents the area that Manitoba requires to produce all the primary timber products (sawn wood, wood-based panels and fibreboards) and all the secondary timber products (pulp, paper and paperboard) consumed.

Fishing grounds are the total area required to catch freshwater fish for human consumption in Manitoba. (Sea space required for sea fish and other sea products consumption in Manitoba is negligible compared to total food consumption.)

Fossil energy land represents the area that Manitoba requires to sustain its energy consumption of fossil fuels (mainly coal, oil and natural gas). It includes all non-renewable energy used for heating, transportation and electricity generation. The energy footprint is adjusted for the energy embodied in traded goods.

Finally, **built land** includes the entire infrastructure for housing, transportation and industrial production.

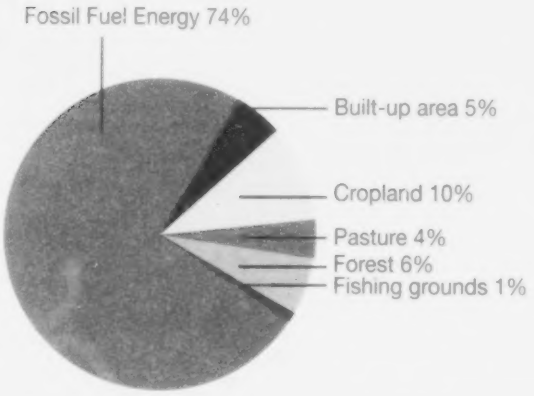
Results of the calculations

The analysis reveals that, in 2001, Manitoba had an ecological footprint of approximately **9 million global hectares**[1] (8,924,532 gha) **or 7.78 gha per person**. This is equivalent to about 20 football fields put together or three city blocks per person. Manitoba's total available productive land, or **bioproductivity** is 18,823,608 global hectares (**or 16.42 gha/person**). The analysis shows that, overall, Manitoba is able to meet its demand from its existing bioproductive land in the near future.

Components (gha):

■ Fossil fuel energy[2]	5.77
■ Cropland	0.77
■ Forest	0.48
■ Built-up area	0.38
■ Pasture	0.30
■ Fishing grounds	0.08
Total EF for Manitoba:	**7.78 gha**

Figure 4-1. The Ecological footprint of Manitoba by Area Type in per cent



Sustainability in Manitoba will depend to a large extent on how the surplus bioproductivity will be used in years to come. Care should, therefore, be taken on how this bioproductivity is utilized.

[1] A 'global hectare' is an adjusted figure to make the comparison of lands with different productivity possible.

[2] Includes: non-renewable energy consumed (natural gas, oil, coal, etc.) for heating, electricity generation and transportation, and the embodied energy in products consumed.

APPENDIX

PROGRESS REPORT ON SUSTAINABLE DEVELOPMENT PROCUREMENT

The Sustainable Development Act requires the establishment of sustainable development procurement guidelines, goals and action plans. These are to be integrated into government procurement procedures to ensure that the purchase of all goods or services is consistent with the principles and guidelines of sustainable development. A progress report for 2003/04 activities related to each of Manitoba's five procurement goals is provided below.

Education, Training and Awareness

The intent of this goal is to ensure a workplace culture that supports sustainable procurement practices exists within government. Departments have undertaken a variety of actions. The most common include: making use of departmental or branch Intranet sites and/or newsletters to communicate news and raise awareness; and having staff attend sustainable development procurement training sessions and workshops. Sustainable development considerations are being integrated into the corporate procurement service functions by communicating sustainable development policies and initiatives to government and the business community; establishing specifications and corporate standards for environmentally preferred goods; engaging key stakeholders in government to advance sustainable development initiatives and enhancing programs to address community economic development (CED) in Manitoba.

Pollution Prevention and Human Health Protection

The intent of this goal is to protect the health and environment of Manitobans from possible adverse effects of government operations and activities and provide a safe and healthy working environment. The province is working to reduce the purchase and use of substances whose quantity, concentration or the conditions under which they are managed pose an elevated risk to the environment or human health. Progress has been made in the area of janitorial supplies, salt and ice-melt products. Efforts to reduce the amount of solid waste generated and sent to landfill are also underway.

Reduction of Fossil Fuel Emissions

The intent of this goal is to reduce fossil fuel emissions of government operations and activities, primarily through vehicle fleets within government. Fleet Vehicles Agency owns and manages the majority of the province's 2,624 light duty vehicles while Mechanical Equipment Services owns and manages some 1,275 light duty vehicles and the equipment used to maintain highway infrastructure. The following data measures the province's efforts to reduce vehicle emissions.

Table 5-1. Alternate Fuel Vehicles – 2003/04

VEHICLE TYPE	NUMBER OF VEHICLES
Chrysler E85 mini van	87
Chrysler E85 Sebring	10
E85 Trucks and SUVs	10
Toyota Prius gas electric hybrid	2
Honda Civic gas electric hybrid	6
Dodge bi-fuel (gasoline/propane) – full size van	1
Total	**116**

Source: Manitoba Transportation and Government Services

Table 5-2. Fuel Volume Percentage by Type – 2003/04

FUEL TYPE	FUEL VOLUME* IN LITRES	PERCENTAGE OF FUEL VOLUME
Gasoline	9,298,757	51.23 %
Ethanol (E10)	2,538,404	13.99 %
Diesel	6,312,743	34.78 %
Other	N/A	N/A

* Fuel volume numbers include fuel purchased for all Fleet Vehicles Agency vehicles (including customers in the broader public sector), all Mechanical Equipment Services Branch vehicles and equipment and all other fuel purchased by Manitoba Transportation and Government Services.

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Table 5-3. Gasoline and Ethanol (E10) Purchased by Departments – 2003/04

DEPARTMENT	LITRES OF GASOLINE AND ETHANOL (E10) PURCHASED*	LITRES OF ETHANOL (E10) PURCHASED*	ETHANOL (E10) PURCHASED AS A % OF TOTAL
Executive Council	11,883	6,078	51.15
Agriculture, Food and Rural Initiatives	246,233	42,311	17.18
Justice	487,450	132,759	27.24
Consumer and Corporate Affairs	7,501	2,235	29.80
Finance	39,817	14,934	37.51
Family Services and Housing	476,863	148,567	31.16
Industry, Economic Development and Mines	141,333	30,692	21.72
Labour and Immigration	126,824	28,106	22.16
Conservation	2,593,435	280,067	10.80
Intergovernmental Affairs	142,881	34,973	24.48
Culture, Heritage and Tourism	58,588	14,154	24.16
Transportation and Government Services	5,017,857	1,140,960	22.74
Education, Citizenship and Youth	97,966	39,475	40.29
Aboriginal and Northern Affairs	110,125	15,645	14.21
Health	97,430	44,296	45.46
Totals	**9,656,186**	**1,975,252**	**20.46**

Source: Manitoba Transportation and Government Services

Resource Conservation

The intent of this goal is to reduce government use and consumption of resources in a sustainable and environmentally preferable manner primarily through the reduction of utilities consumption (such as water, electricity propane, fuel oils and natural gas) and product and services purchases. Government manages the operation of its owned facilities and the utilities servicing these properties and also pays directly for the utilities servicing a number of leased facilities. These properties combined, comprise the most significant portion of accommodations for government employees and facilities for delivery of public services. As the owner or the lessee of these various properties, government controls their construction and operation and is responsible for the resource efficiency of these facilities. An independent audit has demonstrated that, overall, government buildings have achieved a 2001/02 greenhouse gas (GHG) reduction of eight per cent over 1990/91 levels. Therefore, government operations have already achieved compliance with and exceeded Canada's Kyoto Protocol target to reduce its greenhouse gas emissions to six per cent below 1990 levels. The fuel, energy and water provided by service utilities for both owned and leased properties are listed for two consecutive fiscal years in Table 5-4. The GHG emissions of the fuels used in these properties is presented in Table 5-5. The year-over-year change is a decrease in global warming potential of five per cent to 42,521 tonnes of CO_2 equivalents emitted in 2003/04, with the change predominately from the reduction in fuel oil use. Water consumption increased year-over-year by 0.7 per cent to 726,371 cubic meters.

The province continues to research and develop specifications for government-wide application that consider Environmental Choice/Eco-Logo standards and certification systems, such as ISO 1400/1401, Energy Star and the Canadian General Standards Board (CGSB). The following environmentally preferable products have been mandated in government:

- Recycled Multipurpose Copier, Fax and Printer Paper that requires a product with 30 per cent post-consumer content is running at 99 per cent of paper purchases.

Table 5-4. Government Buildings Utilities Consumption – 2002/03 and 2003/04

COMBINED BUILDING VIEW	02/03	03/04	02/03	03/04	02/03	03/04	02/03	03/04	02/03	03/04	02/03	03/04
Building Type	Area m2	Area m2	Electricity kWh	Electricity kWh	Natural Gas m3	Natural Gas m3	Propane L	Propane L	Fuel Oil L	Fuel Oil L	Water m3	Water m3
Corrections	69,676	69,676	14,327,407	14,358,231	2,198,441	2,300,989	400,501	394,339	37,411	0	102,037	107,874
Courts	56,338	56,338	5,705,402	5,657,397	400,041	364,417	117,052	153,169	0	0	34,859	35,714
Education	144,509	144,270	26,033,783	25,412,634	4,289,837	4,027,216	644,417	565,400	119,008	3,621	183,503	165,906
Health Care	75,082	75,082	9,550,800	9,690,180	4,497,780	4,469,908	0	0	124,380	17,934	182,393	194,193
Office	189,028	186,296	32,130,645	31,856,069	2,457,493	2,134,524	0	0	0	0	98,282	97,009
Special	86,433	86,433	16,008,201	16,159,049	4,277,581	4,304,185	0	0	91,874	0	116,534	122,627
Vacant	57,947	57,947	688,994	960,970	1,095,165	1,101,349	0	0	0	0	1,433	605
Warehouse	15,431	15,431	2,226,731	2,216,473	404,519	337,496	0	0	0	0	2,250	2,442
Grand Total	**694,444**	**691,473**	**106,671,963**	**106,311,003**	**19,620,856**	**19,040,083**	**1,161,970**	**1,112,908**	**372,673**	**21,555**	**721,290**	**726,371**

Source: Manitoba Transportation and Government Services

Table 5-5. Government Buildings Greenhouse Gas Emissions – 2002/03 and 2003/04

COMBINED BUILDING VIEW	02/03		03/04	
Building Type	Global Warming Potential (tonnes of CO_2eq)	Emissions / Area (tonnes/ m^2)	Global Warming Potential Global (tonnes of CO_2eq)	Emissions / Area (tonnes/ m^2)
Corrections	5,254.00	0.0747	5,327.87	0.0758
Courts	1,099.61	0.0193	1,089.96	0.0191
Education	10,107.34	0.0693	9,143.83	0.0629
Health Care	8,984.90	0.1192	8,631.76	0.1145
Office	5,530.93	0.0291	4,930.43	0.0263
Special	8,675.58	0.0999	8,465.67	0.0976
Vacant	2,052.01	0.0353	2,071.59	0.0356
Warehouse	816.73	0.0527	692.10	0.0447
Grand Total	**42,521.10**	**0.0609**	**40,353.21**	**0.0580**

Source: Manitoba Transportation and Government Services

*Reported figures include purchases of gasoline and ethanol (E10) for Fleet Vehicles Agency and Mechanical Equipment Services Branch vehicles and equipment assigned to or used by the designated departments.

- Remanufactured Toner Cartridges for use in selected printer and fax machines. Savings are approximately $20,000 per month in addition to diverting spent cartridges from landfill sites.

The province's Fleet Vehicles Agency and Materials Distribution Agency (MDA) purchase environmentally preferable products government-wide. MDA lists approximately 200 environmentally preferable products in its catalogue. Fleet Vehicles promotes the use of alternate fuel vehicles and ethanol, and reports that use of E-10 Ethanol was 20.46 per cent of total fuel purchased by government departments for 2003/04.

Community Economic Development

The intent of this goal is to ensure that government procurement practices foster and sustain community economic development in the Aboriginal community, environmental industry sector and small, community-based businesses and co-ops. Manitoba's Aboriginal population is growing quickly, including an expanding business and entrepreneurial sector, yet Aboriginal firms have historically been under-represented in responding to government procurement opportunities. The Province of Manitoba's Aboriginal Procurement Initiative is designed to increase the participation of Aboriginal businesses in providing goods and services to government through the use of an Aboriginal Business Directory and other tools that are accessible government-wide for buyers to obtain goods and services from Aboriginal suppliers. Benchmark data for Manitoba Government Aboriginal Business Awarded in 2003/04 is 2,583 purchase documents/transactions and a total dollar value of $6,951,317.

The Manitoba Environmental Industry sector is comprised of approximately 350 companies in Manitoba involved in the production of environmental goods or services and environment-related construction activities. Provincial government departments continue working to increase awareness of the environmental businesses offering services through the Manitoba Companies Directory among procurement staff and adapting this tool to meet the needs of the procurement process. The goal is to raise awareness of small business within departments. Further work is needed to determine which areas of small business should be the focus of this objective to maximize the intended community economic development benefits. There is also an ongoing need to identify barriers preventing this sector from accessing opportunities and to take inventory of what is currently being done by government.

2005 Provincial Sustainability
Report for Manitoba

Manitoba Conservation
Suite 160 - 123 Main Street
Winnipeg, MB R3C 1A5

www.gov.mb.ca/conservation/sustainabilityreport/

Manitoba
Building for the Future